Demographic Disparity Analysis
Duluth Police Department

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Police Strategies LLC

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This study was funded by the Duluth Police Department. This research was conducted independently, and the findings and recommendations presented within this report are from the authors and do not necessarily reflect the official positions or opinions of the Duluth Police Department or the City of Duluth.

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ABOUT THE AUTHORS

Police Strategies LLC is a Washington based company that was formed in February 2015. The company was built by law enforcement professionals, attorneys, and academics with the primary goal of helping police departments use their own incident reports to make data-driven decisions and develop evidence-based best practices. The company's three partners are all former employees of the Seattle Police Department and were directly involved with the Department of Justice's pattern or practice investigation of the department in 2011 as well as the federal consent decree that followed. The partners took the lessons learned from that experience and now provide other police departments with the tools they need to monitor their use of force incidents, identify elevated risk behavior, and evaluate the outcomes of any reforms that are implemented. The company has a partnership with the Center for the Study of Crime and Justice at Seattle University to assist in the analysis of the data and conduct academic research.

Our team has more than 20 years of experience examining issues of racial disparity in policing and the criminal justice system. These projects included working with the Seattle City Council's Racial Profiling Task Force, developing a biennial Police-Public Contact Survey for the City of Seattle, conducting independent research on racial disparities observed in open air drug markets, and drafting policies to prohibit racial profiling by police officers.

Contents

Figures

Tables

Executive Summary

This report examines quantitative demographic disparities in victims and offenders reported to the Duluth Police Department as well as disparities in arrests and uses of force by the Duluth police officers. These statistical disparities were calculated using activity-based benchmarks rather than using a traditional population-based methodology. Activity-based benchmarks provide a more accurate assessment of potential biased policing. Based on this quantitative analysis, there is no evidence to suggest that there are systemic practices of biased policing or racial profiling occurring within the Duluth Police Department. However, this finding does preclude the possibility that DPD officers have engaged in individual acts of racial bias or racial profiling. Individual acts of biased policing cannot be identified in a purely quantitative study.

Compared to the population of the City of Duluth, Black and Native American subjects are five times more likely to report being the victim of a crime and are nearly ten times more likely to be reported as a crime suspect. While neither of these racial groups is overrepresented in DPD arrests, each group is about 50% more likely to have force used against them during an arrest. Asian subjects were 70% less likely to report being the victim of a crime and were also 70% less likely to be reported as a crime suspect compared to their share of the population. However, Asian subjects were 40% more likely to be arrested compared to their share in reported crimes. White subjects were 40% less likely to be reported as a crime suspect, but White subjects were not more or less likely to be arrested or have force used against them than would be expected.

In order to conduct a more thorough analysis of demographic disparities, additional data collection will be required. This would include gathering data on consent searches and officer safety searches and more detailed information on police uses of force. The implementation of a community survey would provide ongoing feedback on public sentiment about the DPD and the impacts of any policing reforms that are put into effect. The Department's participation in the National Incident Based Reporting System (NIBRS) will provide a more robust dataset for victims, reported offenders and arrestees.

Introduction

This report provides a quantitative analysis of demographic disparities found in law enforcement data from the Duluth Police Department (DPD). While quantitative data can be used to identify correlations between different variables, these correlations cannot be used to make findings or conclusions as to causation. This study is able to identify and measure demographic disparities by the race, age and sex of the subjects involved, but it does not attempt to determine whether these racial disparities may be caused by officer bias, racial profiling, or other discriminatory practices. These are causal questions that cannot be answered by a quantitative study alone.

The presence of quantitative demographic disparities does not necessarily mean that officers are engaged in biased behavior. Similarly, the absence of observable racial disparities does not mean that individual acts of bias by police officers are not occurring. This study is merely a starting point for a deeper examination of these issues by the Duluth Police Department, the City of Duluth and their community. This report may also be used to learn more about how the community requests services from Duluth PD and how officers exercise their discretion when making law enforcement decisions. One of the goals of this report is to stimulate an ongoing discussion between the Duluth Police Department and the communities they serve about procedural justice, fairness, and equity in policing.

The research methodology used in this report to measure demographic disparities employs several activity-based benchmarks rather than a single population-based benchmark. While the demographic disparities found in this report tend to be smaller than disparities found in other studies that use population-based benchmarks, these activity-based disparities are more reflective of officer behavior and potential bias. The disparity scale has been adjusted to account for the smaller observed disparities. Demographic disparities greater than 50% above the benchmark are considered to be a high disparity. This level of disparity is roughly one-quarter of typical disparities found in population-based studies (usually two or more times greater than the population).

Population-Based Benchmarks are Not Reliable

This report contains a thorough critique of the population-based benchmarking methodology as well as a detailed explanation of why the use of activity-based benchmarks produces more meaningful results. Unfortunately, population-based benchmarks are still widely used in disparity studies of law enforcement data[1] and this methodology continues to have many advocates.[2] One reason for the popularity of population-based benchmarks is that the results are easy to calculate, and they consistently produce the large racial disparities that many people expect to see in policing data. Proponents of population-based benchmarks typically argue that at least some portion of the large observed racial disparities is caused by officer bias, discriminatory practices of law enforcement agencies and/or the practice of racial profiling.

When faced with the large racial disparities produced by a population-based methodology and accusations of racial bias and systemic discriminatory practices, law enforcement agencies are unable to respond in any meaningful way to these types of studies. The typical reaction from law enforcement agencies is to say that the disparities are concerning,[3] more analysis should be done to determine the causes of those disparities[4] and/or a general denial that officers are engaged in racial profiling or biased practices.[5] There is no simple or obvious solution to reducing racial disparities in policing no matter how those disparities are calculated.[6] There is no biased-

[1] "The Police Departments With The Biggest Racial Disparities In Arrests And Killings," Five Thirty Eight, February 4, 2021.
[2] "Black people 5 times more likely to be arrested than whites, according to new analysis," Changing America, June 11, 2020.
[3] "'Needs to be contextualized' - APD chief responds to preliminary racial bias audit report," WRGB Channel 6 News Albany, November 5, 2020.
[4] "West Hartford Police Chief Responds to Report on Traffic Stops, Racial Disparities," Patch, May 13, 2016.
[5] "Honolulu Police Chief Denies Racial Disparities Are Proof Of Profiling," Honolulu Civil Beat, July 22, 2020.
[6] "Solving racial disparities in policing," The Harvard Gazette, February 23, 2021.

free policing policy that could be adopted or implicit bias training program could be implemented that would significantly reduce these racial disparities. This is because the root causes of the racial disparities do not lie entirely with law enforcement agencies or their officers.[7]

It should be noted that Police Strategies LLC is not the first to criticize the population-based approach for calculating racial disparities in policing. A number of nationally recognized academic researchers have articulated the significant problems with using population-based benchmarks and how this methodology has already been discredited by the social sciences. For example, here is an explanation of a racial disparity study that was done for the Tulsa Police Department:

> "The 2018 Tulsa Equality Indicators report on data collected and analyzed by the Community Service Council found that black people were five times more likely than Hispanic/Latino people and twice as likely as white people to experience officer use of force. The 2019 version of that report found that black people were three times more likely to experience officer use of force than Hispanic/Latino people. The Equality Indicators studies use population demographics in determining use-of-force rates. 'We don't do that because people in society are not equally at risk for an encounter with police — whether that encounter is benign or extreme — involving deadly force, for example,' Michael Smith, a UTSA criminology professor, said during the preliminary report presentation with Engel in September. 'That risk does not share equally.' **Smith also said social sciences have discredited using the population-at-large comparison as it relates to police use of force. 'When you compare a police outcome — use of force — against a**

[7] "Officer characteristics and racial disparities in fatal officer-involved shootings," Proceedings of the National Academy of Sciences of the United States of America (PNAS), July 22, 2019. ("We find no evidence of anti-Black or anti-Hispanic disparities across shootings, and White officers are not more likely to shoot minority civilians than non-White officers. Instead, race-specific crime strongly predicts civilian race. This suggests that increasing diversity among officers by itself is unlikely to reduce racial disparity in police shootings.")

> **static population based on a census, it's like comparing apples to oranges,' he said. 'We don't do that in the scientific community'**"[8] (emphasis added).

The John Finn Institute for Public Safety has done a considerable amount of research on racial disparities in policing. In their reports they discuss the problems with using population-based benchmarks:

> "Many attempts have been made to form benchmarks that approximate the racial and ethnic composition of the violator population. The simplest and easiest approach to this problem is to compare those who are stopped to the residential population of the surrounding jurisdiction. **This approach suffers from many shortcomings, however, which are likely to lead to erroneous inferences about bias."**[9] (emphasis added).

Some researchers have pointed out that while population-based benchmarks are considered to be the worst methodology to use, there is still disagreement on what would be a better alternative:

> "While there is some consensus in the research community that residential census populations are the least reliable of the benchmarks available, there is no such consensus regarding the validity of other techniques."[10]

On the topic of population-based benchmarks, it is important to hear the perspectives of credible experts in this field who have published relevant research work in peer reviewed academic journals. Here is a list of a experts that the media and other interested parties may want to speak

[8] "Tulsa police use-of-force encounters final report released, but 'richest and most important' dataset still to come," Tulsa World, March 4, 2020.
[9] "Traffic Stops by Suffolk County Police," The John F. Finn Institute for Public Safety, Inc., September 2020.
[10] Rob Tillyer, Robin S. Engel, and John Wooldredge, "The Intersection of Racial Profiling and the Law," Journal of Criminal Justice 36 (2008): 138-53, p. 143.

with regarding the use of population-based benchmarks for measuring racial disparities in policing:[11]

- Dr. Robert Worden, John Finn Institute for Public Safety
- Dr. Robin Engel, University of Cincinnati
- Dr. Michael Smith, University of Texas at San Antonio
- Dr. Geoffrey Alpert, University of South Carolina

[11] None of the researchers listed were involved in this study or the prior study done for the Spokane Police Department.

If Law Enforcement Officers Engaged in Systemic Biased Practices, What Would the Data Look Like?

What would we expect the data to look like if law enforcement officers were engaged in systemic biased practices and/or racial profiling? If a law enforcement agency had policies that were discriminatory or if officers were routinely acting with conscious bias against specific racial groups, what would the results of a racial disparity analysis look like?

In the 1990s, the practice of racial profiling and other discriminatory law enforcement practices were widespread as part of the War on Drugs strategy.[12] The theory was that Black subjects were more likely to be involved in trafficking and selling narcotics than other racial groups. Some agencies had policies and practices that would target Black drivers for pretext stops in order to search for contraband.[13] Officers would first identify the race of the driver and then would find any type of traffic violation that could be used as a pretext for the stop. The purpose of these stops was to investigate and search for narcotics and other illegal drugs. While non-Black drivers were observed committing the same traffic violations, officers would not stop them because they did not meet the profile of suspected drug traffickers.

Whenever Black drivers were stopped, they were more likely to be searched than drivers of other racial groups. Even though the hit-rates for searches of Black drivers were not greater than for other racial groups, the higher frequency of searches would produce more arrests increasing racial disparities for arrests of Black drivers. A higher stop rate for Black drivers would also uncover other problems such as lack of insurance, suspended licenses, and outstanding warrants. This would increase racial disparities in arrests and citations for Black subjects. The more arrests were made of Black subjects, the more uses of force would occur during those arrests further increasing racial disparities.

[12] "Driving While Black," The Minnesota Post, August 16, 1998.
[13] "New Jersey State Police's first 100 years characterized by racial prejudice," The Conversation, March 11, 2021.

Using an activity-based benchmarking methodology, Table 1 shows the results for a hypothetical law enforcement agency that was targeting Black subjects for enforcement action.

Table 1: Disparity Matrix for Hypothetical Agency Engaged in Racial Profiling of Black Drivers

		Police Actions			
		Stops	Arrests	Searches	Uses of Force
Risk Ratio		Stops / Suspects	Arrests / Stops	Searches / Stops	UOF / Arrests
Race	White	0	0	0	0
	Black	++	++	++	++
	Nat Amer	0	0	0	0
	Asian	0	0	0	0
	Hispanic	0	0	0	0

Symbol	Disparity	Risk Ratio
++	Positive	> +50%
+	Positive	+25% to +50%
0	None	-25% to +25%
-	Negative	-25% to -100%

This hypothetical example assumes that each racial group was equally likely to be involved in unlawful behavior and each group was equally likely to come into contact with the police. The model also assumes that the police were only biased against Black subjects and treated all other racial groups equally. In this example, the only cause for the racial disparities would be systemic bias and it would by observed in all types of police encounters and law enforcement actions.

If a hypothetical law enforcement agency was engaged in systemic bias against a particular racial group and each racial group was equally likely to commit crimes and come into contact with the police, racial disparities would not be expected to be found for all types of crimes and enforcement actions. The impacts of explicit bias and racial profiling would be expected to be seen in high discretion law enforcement actions such as traffic stops but not in low discretion arrests for violent crimes. In order to make an arrest for a violent crime, officers would need to have probable cause that a crime had been committed and would usually need to have a statement from a victim or witness. By contrast, a traffic stop can be made for virtually any reason at the officer's sole discretion.

Table 2: Disparity Matrix by Officer Discretion Levels for Hypothetical Agency Engaged in Racial Profiling

		Discretionary Levels for Police Actions Taken (CAD)				
Action Taken		Infractions	Citations	Arrests & Citations	Arrests	Arrests
Discretion		Very High	High	Medium	Low	Very Low
Risk Ratio		Actions Taken / Contacts	Actions Taken / Contacts	Actions Taken / Contacts	Actions Taken / Contacts	Actions Taken / Contacts
Race	White	0	0	0	0	0
	Black	++	++	+	0	0
	Nat Amer	0	0	0	0	0
	Asian	0	0	0	0	0
	Hispanic	0	0	0	0	0

		Police Bias Risk Levels				
Discretion		Very High	High	Medium	Low	Very Low
Race	White	Medium	Medium	Medium	Lower	Lower
	Black	Higher	Higher	Higher	Lower	Lower
	Nat Amer	Medium	Medium	Medium	Lower	Lower
	Asian	Medium	Medium	Medium	Lower	Lower
	Hispanic	Medium	Medium	Medium	Lower	Lower

This hypothetical example assumes that each racial group is committing each type of crime at the same rate so there should be no disparities observed in serious violent crimes where officers have low levels of discretion (e.g. homicides, assaults, rapes, etc.). For these types of incidents, it would be more difficult for officer bias to influence the observed disparities. However, for lower-level offenses, officers have a higher degree of discretion when deciding who to stop and where to issue a citation, infraction or give a warning. If there were systemic biased practices against Black subjects, we would expect to see large disparities in officer actions where officers have a higher level of discretion.

If the demographic disparity analysis of data from the Duluth Police Department (DPD) had yielded results similar to the patterns found in this extreme hypothetical example, we would have reached the conclusion that there was a substantial risk of systemic bias in officer behavior. However, the racial disparity results from DPD yielded quite different patterns that are contrary to what would be expected if systemic bias were present. Therefore, we reached the conclusion that it is unlikely that systemic bias was a factor in generating the racial disparities that were observed in this study.

Strategies for Reducing Racial Disparities in Policing

While quantitative studies cannot identify individual acts of biased policing and cannot definitively confirm or deny the existence of systemic biased practices in policing, the data is able to show where disparities exist and the level of disparity that is present. It has been argued that any racial disparity between policing data and the population is an undesirable result regardless of the cause of those disparities.[14] Since none of the police reforms implemented over the last decade have significantly reduced population-based racial disparities in law enforcement activities, a new movement has begun to reduce police department budgets and transfer law enforcement responsibilities to other departments and community organizations.[15]

The Duluth Chapter of the NAACP recently conducted a racial disparity study of the Duluth Police Department using a population-based benchmark approach. This study found large disparities for Black and Native American subjects in arrests and uses of force and other police activities. The NAACP called on Duluth PD to make changes that would bring the racial composition police actions to be proportional to the demographics of the City of Duluth by December 2022.[16]

A similar argument was made by investigative reporters at the San Diego Union-Tribune. They conducted racial disparity studies of multiple law enforcement agencies in San Diego County and consistently found elevated levels of racial disparities in police actions when compared to the population. The reporters argued that the racial disparities were a problem regardless of the causes of those disparities and that the police agencies should take actions to reduce them:

> "What a lot of experts who study this data professionally say, is that it is difficult to prove bias without a shadow of a doubt within data, though not impossible. However, the burden of proof should be as equally placed on police departments,

[14] "The Numbers Don't Speak for Themselves: Racial Disparities and the Persistence of Inequality in the Criminal Justice System," Association for Psychological Science, 2018.
[15] "What does 'defund the police' mean and does it have merit?" Brookings, June 19, 2020.
[16] "NAACP: Data shows Duluth Police arrest, use force more on people of color," Duluth News Tribune, March 26, 2021.

> if not more so. But, beyond that, let's focus on addressing disparities. Let's not get caught in the weeds with where these disparities come from."[17]

Since the root causes of observed racial disparities cannot be identified by quantitative studies alone, it would be difficult to design effective strategies to reduce those disparities. Existing strategies such as implicit bias training, de-escalation training, body cameras, civilian oversight, and biased-free policing policies have all failed to reduce racial disparities in policing. For example, the Seattle Police Department has implemented most of the policies and programs designed to prevent biased policing and racial profiling. The Department has also been under a federal consent decree for a decade and yet the population-based racial disparities still persist.[18] The Seattle PD racial disparity studies used population as the primary benchmark which negatively impacts the validity of their results and findings.[19]

It would not be possible for a law enforcement agency to bring the racial composition of its stops and arrests in line with the demographics of the local population without the use of some type of racial quota system. Such a system would itself be discriminatory and unlawful. However, there are other changes that an agency could make to its policies and practices that could potentially reduce racial disparities. In order to be lawful and constitutional, the reforms must be applied fairly and equitably across all racial groups. For example, if an agency had large racial disparities in arrests for drug possession crimes, the agency could make a policy decision to stop making arrests for those crimes resulting in the elimination of racial disparities in this area of enforcement. However, there may be public safety reasons for not making such a policy change. If the primary goal is to reduce racial disparities and the responsibility is left solely to the law enforcement agency to reduce those disparities, then altering enforcement practices would be an effective method for achieving that goal.

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[17] "Data: San Diego Police And Sheriff's Deputies Target Minorities," KPBS, March 29, 2021.
[18] "Report shows Seattle police enforcement still disparate along racial lines," Crosscut, May 1, 2019.
[19] "The Science of Justice: Seattle Police Department National Justice Database City Report," Center for Policing Equity, January 2021.

This report does not advocate for or against any specific policy or program change that may affect racial disparities. There are a number of options that Duluth PD, elected officials and the community may wish to consider. This report will identify some potential changes in areas that may have the greatest impact on racial disparities. By identifying where racial disparities in policing exist and the magnitude of those disparities, the impacts of policy and procedural changes can be evaluated.

The following table examines the number and percentages of calls for service received by Duluth PD and officer-initiated contacts by the final call type and the race of the subjects involved.

Table 3: Duluth PD - Calls for Service and Officer-Initiated Contacts by FBI Crime Category and Race of Suspect

FBI Crime Category	White	Black	Nat Amer	Asian	Total Calls	% of Total
Theft	62.0%	19.4%	18.0%	0.6%	4,098	18.7%
Assault	53.6%	28.8%	17.2%	0.3%	3,832	17.5%
Domestic	60.3%	18.9%	20.3%	0.6%	3,812	17.4%
Other	56.6%	22.7%	20.3%	0.4%	3,397	15.5%
Vandalism	84.0%	9.1%	5.8%	1.1%	1,099	5.0%
Fraud	60.0%	21.4%	18.3%	0.4%	1,063	4.9%
Burglary	57.1%	25.0%	16.7%	1.2%	1,041	4.8%
Sex Crime	61.3%	22.6%	15.6%	0.6%	700	3.2%
Disturbance	59.6%	19.6%	20.3%	0.4%	713	3.3%
Drugs	66.5%	15.1%	17.7%	0.7%	588	2.7%
DUI	71.4%	7.6%	20.7%	0.4%	566	2.6%
Auto Theft	57.9%	20.4%	21.5%	0.2%	475	2.2%
Liquor Laws	62.2%	16.8%	19.7%	1.3%	238	1.1%
Robbery Kidnap	50.0%	41.0%	8.2%	0.8%	122	0.6%
Weapon	27.3%	40.9%	30.9%	0.9%	110	0.5%
Homicide	33.3%	41.7%	25.0%	0.0%	12	0.1%
Total Calls	60.1%	21.2%	18.1%	0.5%	21,866	100%
Duluth Population	94.1%	2.4%	1.9%	1.7%		

The following table calculates the risk ratios by suspect race for calls for service by the final crime category. The population of Duluth is used as the benchmark for these risk ratios.[20]

Table 4: Duluth PD - Risk Ratios for Calls for Service by FBI Crime Category and Suspect Race

FBI Crime Category	White	Black	Nat Amer	Asian	Total Calls	% of Total
Theft	0.7	8.1	9.6	0.3	4,098	18.7%
Assault	0.6	12.1	9.2	0.2	3,832	17.5%
Domestic	0.6	7.9	10.8	0.4	3,812	17.4%
Other	0.6	9.5	10.9	0.2	3,397	15.5%
Vandalism	0.9	3.8	3.1	0.7	1,099	5.0%
Fraud	0.6	8.9	9.8	0.2	1,063	4.9%
Burglary	0.6	10.5	8.9	0.8	1,041	4.8%
Sex Crime	0.7	9.5	8.3	0.3	700	3.2%
Disturbance	0.6	8.2	10.9	0.3	713	3.3%
Drugs	0.7	6.3	9.5	0.4	588	2.7%
DUI	0.8	3.2	11.1	0.2	566	2.6%
Auto Theft	0.6	8.6	11.5	0.1	475	2.2%
Liquor Laws	0.7	7.0	10.6	0.8	238	1.1%
Robbery Kidnap	0.5	17.2	4.4	0.5	122	0.6%
Weapon	0.3	17.1	16.5	0.5	110	0.5%
Homicide	0.4	17.4	13.4	0.0	12	0.1%
Total Calls	0.6	8.9	9.7	0.3	21,866	100%
Duluth Population	94.1%	2.4%	1.9%	1.7%		

Compared to the racial composition of the population of Duluth, the racial disparities of suspects reported in calls for service to the Duluth PD are quite large. Native American suspects are ten times more likely to be reported as a crime suspect than would be expected based on their proportion of the population (1.9% of population but 18.1% of reported suspects). Black subjects are nine times more likely to be the subject of a call for service than is expected based upon their percentage of the population (2.4% of population but 21.2% of reported suspects). White

[20] Population is an appropriate benchmark to use for measuring disparities in calls for service from the community.

subjects and Asian subjects are less likely to be reported as a crime suspect than we would expect based on their population. Calls for service are 40% less likely to report a White suspected than expected and 70% less likely to report an Asian suspect.

The racial disparities are different for each crime category. White suspects are most likely to be reported in a vandalism call or a stop for driving under the influence and are least likely to be involved in a weapon offense or a homicide. Asian suspects are most likely to be reported in a burglary call or a stop for a liquor related offense and are least likely to be involved in a homicide, assault or auto theft. Black suspects are seventeen times more likely to be reported as a suspect in a robbery, weapon offense or homicide and are twelve times more likely to be reported as a suspect in an assault than we would expect based on their share of the population. Native American suspects are sixteen times more likely to be reported as a suspect in a weapon offense and are thirteen times more likely to be reported as a suspect in a homicide than we would expect based on their share of the population. Black and Native American suspects are overrepresented in every crime category, but the disparities are smallest for vandalism for both racial groups. Black suspects have lower disparities for driving under the influence and Native American suspects have lower disparities for robbery and kidnapping.

It is important to examine racial disparities by crime category because the type of crime involved will often determine the law enforcement actions taken by the officers. For example, law enforcement contacts involving a serious violent crimes will normally result in an arrest and a jail booking, while contacts for minor property crimes or crimes against society may result in a citation or a warning and no jail booking.

Another key factor to consider when examining calls for service and officer-initiated contacts is the likelihood that the suspect will be identified and on scene when the officers arrive. Criminal actions observed by officers have the highest likelihood of resulting in an arrest. Crimes against persons where a victim or a witness can identify the suspect will have a higher arrest rate than crimes against property where the suspect was not seen and has fled the area.

The following table examines law enforcement actions taken by final crime categories for calls for service and officer-initiated contacts.[21]

Table 5: DPD – Law Enforcement Actions Taken by FBI Crime Category

	Law Enforcement Action Taken				
FBI Crime Category	**Arrest**	**Ticket**	**Other**	**Total Calls**	**% of Total**
Theft	1.9%	9.0%	89.1%	12,914	30.1%
Assault	14.9%	6.1%	79.0%	5,540	12.9%
Domestic	1.0%	0.0%	99.0%	4,377	10.2%
Other	20.7%	21.2%	58.1%	4,081	9.5%
Vandalism	1.5%	3.2%	95.3%	3,997	9.3%
Fraud	0.8%	0.2%	99.0%	2,776	6.5%
Burglary	2.7%	0.0%	97.3%	2,072	4.8%
Drugs	33.5%	9.7%	56.7%	1,389	3.2%
Sex Crime	1.4%	1.6%	96.9%	1,334	3.1%
DUI	42.9%	16.7%	40.4%	1,274	3.0%
Disturbance	14.4%	43.9%	41.8%	1,147	2.7%
Auto Theft	1.9%	0.1%	97.9%	924	2.2%
Liquor Laws	3.2%	79.5%	17.3%	555	1.3%
Robbery Kidnap	9.7%	0.0%	90.3%	258	0.6%
Weapon	27.4%	5.1%	67.5%	197	0.5%
Homicide	7.7%	0.0%	92.3%	13	0.0%
Total Calls	8.0%	8.9%	83.1%	42,848	100%

Officers take some type of law enforcement action in about 17% of all calls for service and officer-initiated contacts. Eight percent of calls and officer contacts result in an arrest. Arrest rates are highest for driving under the influence, drug crimes and weapon offenses. This is likely due to the fact that a higher percentage of these contacts were initiated by the officers after the criminal

[21] The "Domestic" FBI Crime Category only includes incidents that do not involve another type of crime. For example, a domestic incident involving an assault would be categorized as an "Assault" and a domestic incident involving vandalism would be categorized as "Vandalism."

behavior was observed.[22] Arrest rates were below 2% for crimes involving fraud, vandalism, auto theft and theft. This is likely due to the fact that many suspects were not observed by police and could not be identified by victims or witnesses.

The following table examines arrest rates for the different crime categories by the race of the suspect involved.

Table 6: DPD – Arrest Rates by FBI Crime Category and Subject Race

		Arrest Rate	Arrest Rate by Race of Subject			
FBI Crime Category	Total Calls	Total	White	Black	Nat Amer	Asian
Theft	10,782	3.2%	2.5%	4.7%	6.6%	2.4%
Assault	6,896	17.0%	17.5%	15.2%	18.0%	8.3%
Domestic	5,041	1.2%	1.0%	1.1%	1.5%	3.3%
Other	4,631	21.9%	20.5%	22.5%	26.3%	11.1%
Vandalism	3,163	2.7%	2.0%	4.4%	7.0%	5.9%
Fraud	2,325	1.2%	0.9%	1.5%	3.3%	0.0%
Burglary	2,029	4.5%	3.3%	9.1%	9.5%	3.6%
Drugs	1,293	44.2%	42.8%	42.0%	50.9%	58.8%
Sex Crime	1,531	1.7%	1.5%	1.4%	2.2%	10.0%
DUI	1,265	46.4%	46.2%	49.6%	43.3%	56.3%
Disturbance	1,459	15.4%	14.8%	15.4%	16.6%	42.9%
Auto Theft	911	3.0%	2.4%	3.6%	6.4%	0.0%
Liquor Laws	583	3.3%	3.6%	6.4%	0.8%	0.0%
Robbery Kidnap	366	13.7%	11.8%	16.5%	15.9%	0.0%
Weapon	254	28.3%	30.1%	26.6%	24.3%	50.0%
Homicide	22	4.5%	11.1%	0.0%	0.0%	0.0%

White suspects have higher arrests rates for assault and homicide than subjects from other races. When being investigated for robbery, kidnapping, liquor laws and burglary Black suspects are more likely than other races to be arrested. Native American suspects have higher arrest rates for assault, vandalism, theft, auto theft and fraud and Asian suspects have higher arrest rates for drug crimes, driving under the influence, disturbances, weapon offenses, and sex crimes.

[22] The data received from DPD did not contain a field that distinguishes between calls for service and officer-initiated contacts.

Summary of the Results

The data from the Duluth Police Department revealed that Males were overrepresented, and Females were underrepresented as suspects in reported crimes. Females were underrepresented in use of force incidents. No disparities were seen for Males or Females in crime victims or arrests. Arrests and uses of force for Male subjects were proportionate to their benchmarks.

Juvenile subjects and subjects over 50 were less likely to be reported crime suspects than would be expected based on their share of the population. Subjects between 18 and 50 were overrepresented as crime suspects and those between 30 and 39 were more than twice as likely to be reported as a crime suspect as we would expect based on their share of the population. Persons over 50 were the only age group to be underrepresented as crime victims. Arrests for each age group were proportional to their share of reported crime suspects except for those over 50 who were 30% more likely to be arrested. When someone over 50 was arrested they were 50% less likely to be involved in a use of force incident than arrestees from other age groups.

Disparities were only observed for White subjects in reported crime suspects where they were 40% less likely to be found than expected based on their share of the population. Asian subjects were significantly underrepresented in victims, reported crimes suspects and uses of force, but Asian subjects were 40% more likely to be arrested than would be expected based on their proportion of reported crime suspects. Black and Native American subjects were both five times more likely to be a crime victim and nine times more likely to be a crime suspect compared to their share of the population. Black arrestees were 70% more likely to be involved in a use of force incident and Native American arrestees were 40% more likely to be involved in a use of force incident. The percentage of Black and Native American arrestees was proportionate to their share of reported crime suspects.

As mentioned in the introduction, there is no consistent pattern in the observed disparities for any demographic group that would be expected if the Duluth PD or its officers were engaged in

a systemic practice of biased or discriminatory policing. This quantitative study cannot definitively rule out the presence of systemic bias, but the inconsistent observed disparities make it unlikely that systemic bias is occurring during enforcement actions. This risk assessment only applies to systemic and pervasive discriminatory practices. Individual acts of officer bias may be occurring, but these incidents would not necessarily impact the overall disparity calculations.

While no disparities were observed in arrests for Black and Native American subjects, each of these racial groups was overrepresented in uses of force. This overrepresentation could be a result of officer bias or differential behavior by subjects or a combination of several factors. Duluth PD should take a closer examination of its use of force incidents involving Black and Native American arrestees to ensure that officers are using force with appropriate levels of justification and that no excessive force is being used. If uses of force by DPD officers are within policy and meet constitutional standards, then it is unlikely that the Department can do anything to reduce these racial disparities since they would not be caused by officer behavior.

This report provides descriptive information and basic statistics on police-civilian interactions involving the Duluth Police Department. With dozens of data fields and tens of thousands of records, there is a great deal of statistical research that could be conducted on this data set. This report provides a high-level look at the data. At the conclusion of this report, we provide some recommendations on how the ongoing data collection process by the Duluth Police Department can be improved as well as data variables that could be added to enhance the analysis. Recommendations for DPD policy, training or procedural changes are beyond the scope of this report although this data set could certainly be used to support recommendations in these areas.

Data Used

This report takes a comprehensive look at demographic disparities found in law enforcement data from the Duluth Police Department. The methodology used in this report differs from traditional racial disparity studies in two regards:[23]

1) Traditional studies only examine disparities by race. This study explores disparities by sex and age in addition to race.

2) Traditional studies use population-based benchmarking to calculate disparities. This study uses reported crimes as an initial benchmark and then employs activity-based benchmarking to calculate the disparities for each subsequent law enforcement activity.

The disparity calculations for both the population-based benchmarking approach and the activity-based benchmarking approach use the same data sets from the same data sources.

Table 7: DPD Data Sources

	Name	Time Period	Total Records
Census	US Census Population Estimates	2019	85,618
CFS	Victims and Offenders Identified in Calls for Service	Jan 2017 to May 2021	43,226
CAD	Computer Aided Dispatch System - All Calls	Jan 2017 to Dec 2020	403,289
CAD	Computer Aided Dispatch System - Arrests	Jan 2017 to Feb 2020	23,660
UOF	IAPro/BlueTeam Use of Force Incidents	2018 to 2020	281

It should be noted that all of the data obtained from Duluth PD for this study came from existing records management systems that are currently used for law enforcement purposes only. These data systems were not designed to provide data for statistical analysis. Missing and unknown records were excluded from all calculations. While the time periods of the different data sets do not necessarily match, the overall proportions and percentages for each data set do provide sufficient information to conduct the basic risk ratio calculations used in this report.

[23] See APPENDIX B for a more complete discussion about the methodological differences between this report and other studies of racial disparities in policing.

These data sources received from Duluth PD yielded the following results:[24]

Table 8: Duluth PD - Demographic Percentages by Data Source

Data Source		Census	CFS	CFS	CAD	UOF
Total Records		85,618	43,226	24,564	23,660	281
		Population	Victims	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	50.1%	38.0%	32.6%	18.5%
	Male	48.7%	49.9%	62.0%	67.4%	81.5%
Race	White	94.1%	79.0%	60.5%	67.5%	50.9%
	Black	2.4%	11.2%	21.1%	16.5%	27.4%
	Nat Amer	1.9%	9.3%	17.8%	15.3%	21.7%
	Asian	1.7%	0.5%	0.5%	0.7%	0.0%
Age	0-17	17.2%	22.5%	8.3%	7.6%	9.2%
	18-29	25.8%	25.0%	36.9%	41.5%	41.0%
	30-39	13.4%	18.2%	31.0%	25.4%	26.2%
	40-49	10.8%	13.3%	14.0%	12.7%	16.6%
	50+	32.9%	21.0%	9.8%	12.8%	7.0%

[24] In some cases, police records that did not include demographic information (age, race, or sex) were excluded from the disparity analysis.

Table 9: Duluth PD – Risk Ratios by Data Source

Data Source		Census	CFS	CAD	CAD	UOF
Total Records		85,618	43,226	24,564	23,660	281
Benchmark			Population	Population	Reported Offenders	CAD Arrests
		Population	Victims	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	1.0	0.7	0.9	0.6
	Male	48.7%	1.0	1.3	1.1	1.2
Race	White	94.1%	0.8	0.6	1.1	0.8
	Black	2.4%	4.7	8.9	0.8	1.7
	Nat Amer	1.9%	5.0	9.5	0.9	1.4
	Asian	1.7%	0.3	0.3	1.4	0.0
Age	0-17	17.2%	1.3	0.5	0.9	1.2
	18-29	25.8%	1.0	1.4	1.1	1.0
	30-39	13.4%	1.4	2.3	0.8	1.0
	40-49	10.8%	1.2	1.3	0.9	1.3
	50+	32.9%	0.6	0.3	1.3	0.5

The following Disparity Matrix summarizes the risk ratios[25] of victims, reported offenders, arrests and uses of force.

Table 10: Duluth PD - Disparity Matrix

Data Source		Census	CFS	CFS	CAD	UOF
Total Records		85,618	43,226	24,564	23,660	281
Benchmark			Population	Population	Reported Offenders	CAD Arrests
		Population	Victims	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	0	-	0	-
	Male	48.7%	0	+	0	0
Race	White	94.1%	0	-	0	0
	Black	2.4%	++	++	0	++
	Nat Amer	1.9%	++	++	0	+
	Asian	1.7%	-	-	+	-
Age	0-17	17.2%	+	-	0	0
	18-29	25.8%	0	+	0	0
	30-39	13.4%	+	++	0	0
	40-49	10.8%	+	+	0	+
	50+	32.9%	-	-	+	-

Symbol	Disparity	Risk Ratio
++	Positive	> +50%
+	Positive	+25% to +50%
0	None	-25% to +25%
-	Negative	-25% to -100%

[25] See APPENDIX A for a detailed explanation of the statistical methods used in this report.

Key Findings

Reported Crime Suspects Compared to the Duluth Population

- Sex - Males were 30% more likely to be identified as the suspect in reported crimes than we would expect based on their proportion of the population. Females were 30% less likely to be identified as a suspect in reported crimes. Males are nearly twice as likely to be identified as suspects in reported crimes than Females are.

- Race – White subjects are 40% less likely and Asian subjects are 70% less likely to be reported as crime suspects than would be expected based on their percentages of the Duluth population. Black and Native American subjects are nine times more likely to be identified as suspects in reported crimes than would be expected based on their percentages of the Duluth population.

- Age – Juveniles and persons over 50 are more than 50% less likely to be identified as suspects in reported crimes than we would expect based on their share of the population. Subjects between the ages of 30 and 39 are twice as likely to be reported as a crime suspect and those ten years older or younger than this group are about 40% more likely to be identified as a crime suspect than expected based on their population.

Arrests Compared to Reported Offenders

- Sex – When the proportion of arrests are compared to the proportion of reported crime suspects, Males and Females are equally likely to be arrested.

- Race - When the proportion of arrests are compared to the proportion of reported crime suspects, White, Black, and Native American subjects are equally likely to be arrested. Asian subjects are 40% more likely to be arrested compared to how often they are identified in reported crimes.

- Age – All age groups are equally likely to be arrested compared to their share in reported crimes except for those over 50 who are 30% more likely to be arrested.

Uses of Force Compared to Arrests

- Sex - During the arrest process, Male arrestees are twice as likely as Females to be involved in a use of force incident.
- Race – After a subject is arrested by police, Black and Native American arrestees were about twice as likely to be involved in a use of force incident as White arrestees. From 2018 to 2020 there were no Asian arrestees who were involved in a use of force incident.
- Age – Those under 40 are equally likely to be involved in a use of force incident during an arrest while arrestees between 40 and 49 are 30% more likely to be involved in a force incident and those over 50 are 50% less likely to be involved in a use of force incident.

Key Recommendations

Meaningful and impactful policing reform requires accurate and comprehensive data. Unfortunately, many reforms that have been attempted in the past were developed in a data vacuum. Law enforcement needs to implement evidence-based solutions and policy decisions need to be data-driven. This cannot happen in the absence of data.

The Duluth Police Department has begun taking steps on the road to evidence-based policing. This report provides a foundation for future research and improvements to the current data collection process. Our recommendations build on existing DPD data systems with the goal of creating a comprehensive information interface that would allow the community to view and query the DPD's data and better understand law enforcement activities in the City of Duluth. This data will provide insights into how and why officers make discretionary law enforcement decisions. Online dashboards will allow members of the public to query the data and answer their own questions. These dashboards will provide a valuable framework for discussions about officer bias, racial profiling, accountability, and policing reform.

Our recommendations are divided into two primary areas: improvements to the data collection process and providing engaging data interfaces and meaningful reports for the community. The recommendations are described in detail at the end of the report.

Data Collection Recommendations

1) Create a data collection system to capture information on:
    a. Officer-initiated contacts including traffic stops and Terry stops;
    b. Consent searches;
    c. Officer safety searches (frisks and pat downs for weapons).
2) Collect more detailed information on use of force incidents to examine the legal justification and proportionality of force to resistance.
3) Develop a community survey instrument that collects ongoing and continuous feedback

Dashboards and Reporting

1) Create interactive dashboards for both internal and public using data from:
    a. National Incident Based Reporting System (NIBRS)
    b. Computer Aided Dispatch System (CAD)
    c. Internal Affairs and Complaints data
    d. Community Survey Results
2) Enhance the regular reporting schedule for topics that are of interest to the community
    a. Racial Disparity Analysis Report
    b. Use of Force and Search Report
    c. Internal Affairs and Complaints Report
    d. Community Survey Report

Analysis & Methodology

An examination of demographic disparities in policing activities is a vital component of an overall risk assessment for a law enforcement agency. The identification of demographic disparities can highlight areas in need of additional focus and study. Disparity data can also provide useful information for a police department to use as it engages with the community and can promote transparency and more informed discussions about policing issues. However, there are significant limitations to the conclusions that can be reached based solely on a quantitative analysis of demographic disparities.

Disparities can be used to identify correlations with other variables, but these correlations cannot be used to make findings or conclusions as to causation. For example, the presence of a racial disparity in a policing activity does not necessarily mean that officers are engaged is biased policing or racial profiling. Similarly, the absence of racial disparities does not necessarily mean that officers are not engaged in individual acts of racial discrimination. The examination of racial disparities is just a starting point for a broader discussion and a more comprehensive examination of how officers behave and why they make the decisions they do.

Our analysis highlights several demographic disparities in policing activities conducted by the Duluth Police Department. Many of these same disparities are found in other police departments in Minnesota and in departments across the country. We will explore each disparity in greater detail later in the report, but here is a brief overview of some possible explanations for the disparities observed in the Disparity Matrix.

Disparities in Reported Crimes

Males are twice as likely as Females to be involved in crimes that were reported to the Duluth Police Department. This type of disparity is not unique to Duluth and this same pattern of behavior can be found across the country and around the world. Males are much more likely than Females to engage in criminal behavior.[26]

Juveniles and individuals older than 50 are much less likely to be identified as a suspect in a reported crime than those between the ages of 18 and 49. These disparities also mirror patterns found in other jurisdictions throughout the country.[27]

Unlike sex and age, the issue of race and criminal behavior[28] is more controversial.[29]

While it is safe to assume that there is no police department in the country that is "bias free" and we should assume that every law enforcement agency will have some incidents involving individual acts of bias or discrimination, it is also true that Black and Native American subjects are typically identified as suspects in crime reports at rates that are higher than their share of the population. Some of the racial disparities seen in crime reporting could be due to victim bias. Recently there have been high profile incidents caught on video where white "victims" call the police to report a Black suspect committing a crime when no criminal behavior is occurring.[30] Whether or not racial bias is involved in the reporting of crimes, the police are still receiving a higher percentage of crime reports involving Black and Native American suspects from victims of the same race as the suspect. In response, the police will investigate these incidents and will make stops and arrests based upon information provided by victims and witnesses.

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[26] "Gender and Crime - Differences Between Male And Female Offending Patterns," Law Library - American Law and Legal Information.
[27] "Why do young men commit more crimes?" Future Learn.
[28] "Do black Americans commit more crime?" Channel 4 News, November 27, 2014.
[29] "Another 'excuse' for police bias bites the dust," The Minnesota Post, June 4, 2019.
[30] "Amy Cooper Faces Charges After Calling Police on Black Bird-Watcher," July 6, 2020.

Disparities in Arrests

There is a close correlation between reported crimes and arrests. The more reported crimes involving a specific demographic group, the more likely it is that members of that group will be stopped and investigated by the police. Disparities in arrests may be a function of the types of crimes being committed, the level of those crimes (e.g. felony, gross misdemeanor, misdemeanor), the ability of victims and witnesses to identify the suspects and whether the suspects remain at the scene of the crime. If officers are engaged in racial profiling and they target one race for enforcement actions while ignoring criminal behavior of other races, that would also drive the racial disparities observed. In Duluth Asian subjects were the only racial group to be overrepresented in arrests.

Disparities in Uses of Force

During the arrest process, Males were twice as likely as Females to be involved in a use of force incident and Black and Native American arrestees were twice as likely as White arrestees to be involved in a use of force incident. Arrestees between 40 and 49 were the only age group to be overrepresented in uses of force.

Disparities in uses of force are likely the result of disparities in subject resistance. An officer may not lawfully use force against a compliant subject. Duluth PD already has a data system and investigatory process in place to investigate every use of force incident to ensure that it was justified and within policy and not excessive. If there were systemic problems with use of force practices that generated the disparities observed, these problems would have been identified and corrected during the investigatory process. Nevertheless, the Duluth PD should examine use of force incidents involving Black and Native American subjects to ensure that discriminatory practices are not being employed.

Female arrestees are less likely than Male arrestees to be involved in a use of force incident. Male subjects are more likely than Female subjects to resist arrest or flee from officers.

Background

Why Study Racial Disparities in Policing?

The traditional methodology for examining racial disparities in the criminal justice system is outlined in a report by The Sentencing Project:[31]

> "Racial disparity in the criminal justice system exists when the proportion of a racial or ethnic group within the control of the system is greater than the proportion of such groups in the general population.
>
> "The causes of such disparity are varied and can include differing levels of criminal activity, law enforcement emphasis on particular communities, legislative policies, and/or decision making by criminal justice practitioners who exercise broad discretion in the justice process at one or more stages in the system.
>
> "Illegitimate or unwarranted racial disparity in the criminal justice system results from the dissimilar treatment of similarly situated people based on race. In some instances, this may involve overt racial bias, while in others it may reflect the influence of factors that are only indirectly associated with race. Moreover, in some cases disparity results from unguarded, individual- or institution-level decisions that are race-based. Structural racism, derived from the longstanding differential treatment of those with characteristics highly correlated with race (e.g., poverty) can cause or aggravate racial disparity as well."

[31] Reducing Racial Disparity in the Criminal Justice System – A Manual for Practitioners and Policymakers, The Sentencing Project, 2008.

The criminal justice system is the end of the road for many individuals who have faced discrimination their entire lives. Once they enter the system, the impacts of discrimination are often amplified and worsened. Low-income defendants may not be able to make bail forcing them to wait in jail even before any finding is made of their guilt. While in jail they may lose their jobs, their homes, and their families. If they are convicted of a crime, they will lose even more of their rights and their criminal history will make it difficult to find a decent job that pays a living wage. These pressures may lead to recidivism with even stiffer punishments if they are caught.

The United States jails more of its citizens per capita than any other nation in the world.[32] The incarceration rates for Black subjects are five times higher than the rate for White subjects, but this is down from an 8 to 1 disparity 16 years ago.[33] The reduction in racial disparities in incarceration rates may be due to a 30% decline in arrests for robbery, assault and rape cases involving Black suspects.[34] However, during this same period, as the racial disparities in incarceration rates were reduced, the disparities in sentencing increased with Black defendants receiving longer sentences than White subjects for committing the same crime.[35] This could be due to a number of factors including Black defendants having longer criminal histories and/or biased decision making by prosecutors and judges.

The racial disparities that are found in the police activity data from Duluth are similar to the disparities found in cities throughout Minnesota and in jurisdictions around the country. These disparities are undoubtedly a reflection of systemic bias in our society, institutional racism in our government and inequality throughout our economic system. It is unlikely that the observed racial disparities in policing data are caused by "a few bad apples."[36] This phrase is often used as

[32] World Prison Population List, Institute for Criminal Policy Research, 2018.
[33] Black imprisonment rates are down. It's important to know why. The Minnesota Post, April 30, 2019.
[34] Trends in Correctional Control by Race and Sex, Council on Criminal Justice, December 2019.
[35] Same Crime, More Time, Georgia State University Research Magazine, Spring 2020.
[36] 'A few bad apples': Phrase describing rotten police officers used to have different meaning, ABC News, June 14, 2020.

a defense mechanism and to deflect concerns away from broader inequity issues and the need for systemic reforms.[37] The simplistic "bad apple" analogy has also been turned against those agencies that try to use it to protect themselves from additional scrutiny.[38] Officer bias towards minorities will likely reflect society's bias towards these underprivileged groups. There is no way to train this bias away and the best that can be hoped for is to prevent officer bias from impacting discretionary decision making and law enforcement behavior. The issue facing law enforcement today is how to identify the extent of this bias and what to do about the bias once it is discovered.

There is no doubt that there are demographic disparities by race, age, and sex in all aspects of policing and in the criminal justice system. The goal of this report is to identify where racial disparities exist using the police activity data provided by the Duluth Police Department and determine how large those disparities are. This report does not attempt to determine to what extent these racial disparities are caused by officer bias, racial profiling, or other discriminatory practices. These are causal questions that cannot be answered by a purely quantitative study.

To effectively measure officer bias, qualitative data must also be examined. Simply counting the number of times an officer does something (stops, arrests, uses of force, etc.) will not tell us anything about why the officer decided to act and will not reveal how well the officer performed his or her job.

Instead of measuring frequencies to determine bias, officers need to be evaluated on the quality of their interactions with the public. How well do officers treat the subjects they interact with? Are they fair and impartial or are they unprofessional and belligerent? While law enforcement agencies typically do not collect this type of qualitative data on officer behavior, Stanford University recently did collect this information during an officer behavioral study for the Oakland Police Department.[39] Researchers reviewed body worn camera videos of officer interactions with civilians and found that "police officers speak significantly less respectfully to black than to

[37] Time to toss the 'Bad apples' excuse, The Minnesota Post, May 31, 2020.
[38] Bad apples come from rotten trees in policing, Brookings, May 30, 2020.
[39] Language from police body camera footage shows racial disparities in officer respect, PNAS, June 20, 2017.

white community members in everyday traffic stops, even after controlling for officer race, infraction severity, stop location, and stop outcome."[40]

There is a saying, "You cannot manage what you do not measure."[41] This is especially true in policing. Data on police stops, arrests, searches, and uses of force cannot be used to measure the level of officer bias or institutional racism in policing. While racial disparities in policing data are often used as a proxy measure for officer bias (i.e. the greater the disparity the more biased the officer must be), it is unreasonable to assume that discriminatory police practices are responsible for 100% of the observed statistical disparities. If we lived in an isolated bubble where everyone behaved in the same manner and offended at the same rates, then we could assume that any disparities observed in policing data would have been caused by differential behavior by police officers. Obviously, the real world is much more complex, and it is not possible to create the type of controlled experimental environment that would be needed to conduct an accurate racial bias analysis.

While it is unreasonable to assume that 100% of observed disparities in policing data are due to officer bias and profiling, it is also unreasonable to conclude that officer bias does not play any contributing role in generating or exacerbating these disparities. Over the last 20 years, racial disparities have been found in virtually every aspect of policing in every law enforcement agency in the country.[42] The debate should not be about whether the disparities exist, but rather determining how much of those disparities are due to individual officer bias and/or institutional racism in the police department.[43] Critics of the police tend to place most of the blame for the racial disparities on biased or racist officers while police departments will typically claim to be professional and unbiased in their actions. Law enforcement often responds to concerns about biased policing by pointing out that they are simply responding to community calls for service

[40] Id.
[41] "The Two Most Important Quotes In Business," Growthink.com.
[42] "Economics Research on Racial Disparities in Policing," Crime and Criminal Justice, Econofact.org, June 16, 2020.
[43] "Report to the United Nations on Racial Disparities in the U.S. Criminal Justice System," The Sentencing Project, April 19, 2018.

and observed criminal behavior and they cannot take full responsibility for racial disparities that are caused by other parts of society.[44]

Policing Reform in the 21st Century

After Michael Brown was killed by the police in Ferguson Missouri in 2014, there was an immediate and concerted effort to implement policing reforms in an attempt to reduce officer involved shootings and uses of force. Several major initiatives were launched including:

- Body Worn Cameras[45]
- De-Escalation Training[46]
- Implicit Bias Training[47]
- Police Data Initiative[48]
- President Obama's Task Force on 21st Century Policing[49]

While each of these reform measures had positive benefits, none of them produce the systemic changes in policing that the public was looking for. Despite all these reforms, officer involved shootings and uses of force continued at the same rates as before. Racial disparities in policing data were not reduced and, in some cases, even worsened after reforms were implemented.

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[44] "The Police and Public Discourse on "Black-on-Black" Violence," New Perspectives in Policing, National Institutes of Justice, May 2015.
[45] Body cameras are seen as key to police reform. But do they increase accountability? PBS News Hour, June 25, 2020.
[46] Police reformers push for de-escalation training, but the jury is out on its effectiveness, ABC News, July 5, 2020.
[47] NYPD Study: Implicit Bias Training Changes Minds, Not Necessarily Behavior, NPR, September 10, 2020.
[48] Police Data Initiative, Police Foundation.
[49] Final Report of The President's Task Force on 21st Century Policing, May 2015.

After the death of George Floyd in Minneapolis in May 2020, calls for additional police reforms have been made and some were quickly implemented.[50] Due to the nature of Mr. Floyd's death, some local and state governments and police chiefs rushed to ban or limit the use of "choke holds."[51] When police used chemical munitions to quell protests, some elected officials reacted by banning those force options as well.[52] The New York Attorney General issued a report on September 25, 2020, after reviewing a traffic stop that resulted in an officer involved shooting and recommended that the New York Police Department discontinue traffic enforcement as a way to prevent violent encounters with the public.[53]

While it is understandable that politicians and police chiefs would want to react quickly to high profile policing incidents of national concern, most of these significant policy decisions and recommendations were and are being made in the absence of comprehensive data. There is an information vacuum around most aspects of policing. As a result, many of the reforms that have been implemented will not have the intended impacts and may produce unintended and unwanted consequences.

The failure of many policing reforms implemented during the last decade has created a new movement to defund the police.[54] Proposals range from abolishing police departments altogether,[55] to reducing police budgets immediately by 50%,[56] to transferring some policing

[50] "The major police reforms enacted since George Floyd's death," Axios, September 8, 2020.
[51] "Minnesota lawmakers pass sweeping package of police accountability measures," Star Tribune, July 21, 2020.
[52] "Seattle City Council bans police use of tear gas and chokeholds as protests for Black lives continue," The Seattle Times, August 12, 2020.
[53] "New York AG suggests NYPD get rid of traffic stops to prevent deadly force incidents," The Hill, September 25, 2020.
[54] "What does 'defund the police' mean and does it have merit?" Brookings, June 19, 2020.
[55] "Yes, We Mean Literally Abolish the Police, Because reform won't happen," The New York Times, June 12, 2020.
[56] "Defunding Seattle Police by 50% proving complicated for council," Crosscut, July 31, 2020.

services to other departments or community-based organizations.[57] Minneapolis, the location of the murder of George Floyd, just approved a ballot measure that would disband the Minneapolis Police Department and replace it with a new Department of Public Safety that has a broader mission than just law enforcement.[58] These types of dramatic changes to the structure, functions and budgets of police departments are proving to be difficult to implement.[59]

This report is being written at a time of unprecedented conflict and tension between law enforcement and the communities they serve. Concerns about high profile incidents like the killing of George Floyd in Minneapolis have generated thousands of protests across the country and around the world. During this unrest, additional acts of police violence have been captured on video and shared across social media. The police response to peaceful protests and associated incidents of violence, property destruction and looting have been criticized as being excessive and unnecessary.[60] As frustrations and tensions grow, existing police reform measures are viewed as inadequate and ineffective and so a new movement to defund the police began.[61] Advocates for reducing police budgets or eliminating the police entirely are driven by a deep distrust of law enforcement. They have seen prior reform efforts fail to make any difference in the issues they are concerned about.[62] If the police cannot reform themselves, the argument goes, then the police should be defunded so they can do no more harm. Calls to defund the police have threatened the institution of policing and the careers of hundreds of thousands of law enforcement officers. This has created a counter movement to support police departments

[57] "Durkan wants to move 911 dispatchers, parking enforcement outside SPD, criticizes City Council support for deeper defunding," The Seattle Times, July 13, 2020.
[58] "Minneapolis voters will decide whether to replace the police department with a public safety department," CNN, July 24, 2021.
[59] "How a Pledge to Dismantle the Minneapolis Police Collapsed," The New York Times, September 26, 2020.
[60] "Seattle defends protest response, says police did not violate court order," The Seattle Times, October 2, 2020.
[61] "Defunding the Police Will Actually Make Us Safer," ACLU, June 11, 2020.
[62] "Can Cops Unlearn Their Unconscious Biases?" The Atlantic, December 23, 2017.

and officers.[63] As the struggle over policing reform continues, the issue is becoming more political with presidential candidates weighing in on the issue.[64] Clashes on the streets between police and protestors have drawn in unofficial armed groups in support of law enforcement.[65]

The totality of these circumstances has put an intense strain on the relationship between law enforcement and the communities they serve and has called into question the legitimacy of policing itself. The impacts on policing could be catastrophic according to former Police Chief Cedric Alexander: [66]

> "To perform their sworn mission, police officers are entrusted with very consequential legal authority, including the authority to use deadly force. But the power behind that authority comes not from any law but from the public. It is the members of the community who grant their officers the legitimacy to perform their mission. Without this grant of legitimacy, the police, for all their legal authority, are essentially powerless."

This is a challenging time for most law enforcement agencies in the United States including the Duluth Police Department. It is also a challenging time to be releasing a report that examines racial disparities in policing. Data from these types of studies is often cherry picked to support both sides of the policing debate. As Mark Twain once said, "There are three kinds of lies: lies, damned lies, and statistics."[67] The goal of this report is not to support any single position or point of view, but instead to provide useful law enforcement data and meaningful context so that the

[63] "Pro-police rally met with counter protesters ahead of defund vote," KOMO News, August 9, 2020.
[64] "Biden Said, 'Most Cops Are Good.' But Progressives Want Systemic Change," The New York Times, August 19, 2020.
[65] "Why Experts Say The Police Don't Need Militias' Help," National Public Radio, August 27, 2020.
[66] "Ex-police chief: Police should never welcome the help of vigilantes," CNN Opinion by Cedric L. Alexander, September 1, 2020
[67] "Lies, damned lies, and statistics," Wikipedia.

local stakeholders in the City of Duluth can begin to have an informed and data-driven discussion about these controversial issues. There is no quantitative statistic that can confirm or deny the existence of racial bias or racial profiling by police officers. Statistics can be used to identify where racial disparities exist and determine the magnitude of those disparities, but quantitative data alone cannot be used to determine the causes of those disparities. To make causal findings, the data must be examined by those who know what is happening in City of Duluth: residents, business owners, community groups and organizations, churches, government officials and police officers. Outside consultants can provide a basic analysis of the data, but they are unable to interpret those results because they do not live or work in the community being studied.

Background for this Study

In April 2021 Police Strategies LLC was retained by the Duluth Police Department to conduct a demographic disparity analysis using data from existing departmental databases and records management systems. This report also includes comparative data on reported crimes and arrests from the National Incident Based Reporting System (NIBRS)[68] for thirty-eight other law enforcement agencies in Minnesota. Duluth PD has just started reporting NIBRS data to the FBI, so this data is not yet available for the Department. While the primary focus of the report is on racial disparities in policing, the analysis has been expanded to explore disparities by sex and age as well. The statistical methods used for the analysis are simple and easy to understand. Rather than employing complex multivariate regression models and tests of statistical significance, the objective of this report is to provide easily digestible statistics so that the DPD and the community can identify the issues of concern and the areas where they want the Department to improve.

This report challenges the traditional methodology used to measure racial disparities in policing. Quantitative studies alone cannot be used to measure the level of bias among police officers. The observed racial disparities in policing data are caused by a myriad of factors that cannot be disaggregated through statistical research alone. Instead, these statistical disparities should be examined by the DPD, the community, elected officials and other stakeholders who are better positioned to understand the root causes of the disparities. Once the causes have been identified, these same groups can work together to design reforms to address the concerns raised. Ongoing data analysis can then be used to track whether the reforms are achieving their intended goals for reducing racial disparities.

This report does not attempt to quantify how much of the observed racial disparities are due to officer bias. Instead, this report presents a more refined methodology for calculating disparities and expands the scope of analysis to include disparities by sex and age as well as race. The goal of this type of inquiry is to provide actionable data that law enforcement and policy makers can

[68] National Incident-Based Reporting System (NIBRS), Criminal Justice Information Services (CJIS), Federal Bureau of Investigation.

use to make data-driven decisions. If reducing racial disparities in policing is the goal, this report will help policy makers focus on the areas that will have the greatest impact on the desired outcomes. This data will also help the community better understand law enforcement activities, how the police respond to calls for service and how officers are working in the neighborhoods.

Rather than focusing solely on the quantitative data about law enforcement activities, our recommendation is to begin collecting and analyzing information on the quality of the interactions between officers and civilians. None of the policing reforms that have been implemented over the last decade have had any significant impact on racial disparities in policing or the criminal justice system. However, there are many policies and programs that departments have implemented that have improved the quality of policing. If qualitative data is collected, these reforms can be evaluated, and this would improve public trust and confidence in law enforcement.

Some of our recommendations include suggestions for improving existing data collection systems so that a more robust and meaningful analysis can be performed. We also provide recommendations on how to collect additional qualitative data on policing services. Finally, we provide suggestions on ways to improve transparency and openness to help build community trust and confidence in the Duluth Police Department.

A robust data collection and analysis program is essential for both transparency and to evaluate the impacts and effectiveness of any reforms that are implemented. However, there should be realistic expectations and an understanding of the limitations of any quantitative analysis of policing data. This report is merely a starting point for a much more involved discussion and debate between all the local stakeholders. What the data means and what can be done to reduce unwanted disparities is up to the Department and community stakeholders to decide.

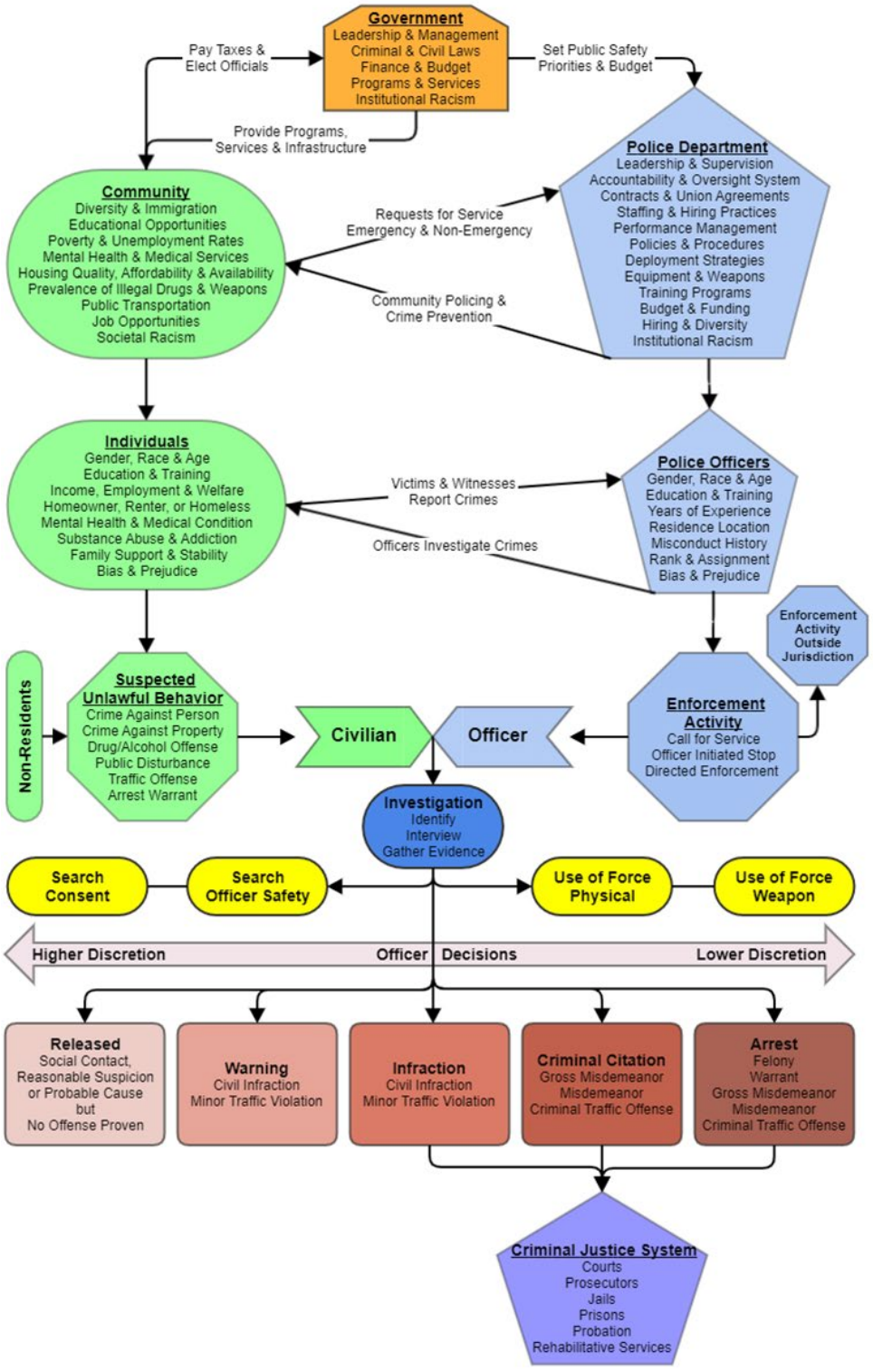
There are a few important questions that a quantitative disparity analysis will not be able to answer:

- Do officers engage in racial profiling or biased policing?
- How big is the problem? Is it just a few officers or the entire department?
- Are there problems with existing policies, training and supervision that enable biased enforcement?
- What can be done to reduce the racial disparities?
- What can be done to ensure that officers treat everyone fairly and equitably?

There is no policy, training or reform program that has been proven to reduce racial disparities in policing. Agencies that have gone through intensive reforms and consent decrees will often emerge with the same racial disparities that they started with.[69]

[69] "Report: Seattle police stop Black people, Native Americans at far higher rate than white people," Seattle Times, July 26, 2021.

A New Framework for Examining Racial Disparities in Policing



The traditional methodology for examining racial disparities in policing activities is overly simplistic and can produce misleading results. The problems with the traditional disparity analysis are numerous and are outlined in more detail in Appendix B.

For this report we have developed a new framework and methodology for analyzing disparities in policing. This framework takes into consideration the complexities of society, government, policing, and the criminal justice system. The new methodology accounts for the various levels of discretionary decision making by police officers as well as the structural and institutional factors that may impact observed disparities. The analysis in this report is not limited to racial disparities, but also includes an examination of disparities by sex and age.

An analysis of racial disparities in policing cannot be limited to examining the impacts of individual officer bias and discrimination. There are societal, governmental, and departmental factors that may play a significant role in contributing to observed disparities and these structures should be incorporated into the review of the findings from the analysis:

Government

- State and local governments pass criminal and civil laws that the police are responsible for enforcing. If a law has a discriminatory or disparate impact on a particular group, then police actions will reflect and reinforce those impacts.[70]
- Governments set the budgets and staffing levels for police departments. The more resources that are provided, the more law enforcement actions can be conducted.
- Governments provide programs and services for the community. The more support government provides for at-risk populations, the lower the crime and delinquency rates are expected to be.
- Elected officials and department directors will set the tone for the city. If law and order leaders are elected to run the government then the police department will be expected to

[70] For example, a sit-lie ordinance which prohibits sitting or lying on the sidewalk will have a disproportionate impact on homeless individuals and chronic public inebriates.

follow their agenda. If leaders are chosen who are focused on restorative justice and alternatives to incarceration, then the police department will adapt its practices to reflect those priorities.

- The degree of institutional racism present in governmental structures will also be reflected in the police department and the actions of its officers.

Community

- Police respond to calls for service from the community and the observed unlawful behaviors of residents and visitors to the City. Many societal factors will influence the rates at which individuals engage in criminal behavior including poverty and unemployment rates, housing quality, affordability and availability, educational opportunities, access to health care and public transportation, etc. Many contributing factors of criminal behavior are influenced by structural, institutional, and societal racism. The same racial disparities observed in policing data are also found in housing, health care, education, and the economy.
- Crime rates can vary dramatically between communities with the largest urban centers typically having the highest levels of crime. The community's relationship with the police department will also play a role in this dynamic. If the public has trust and confidence in their local police officers, they will be more likely to report crimes and cooperate with criminal investigations.

Police Department

- A police department has a great deal of control over the actions of its officers and can provide clear direction on the expectations for professional behavior. This influence is exerted through policies, training, supervision, and accountability systems.
- The department will set staffing levels and determine deployment strategies.
- The department will provide equipment, weapons, and tools for officers to use.

- Leadership and management will establish the tone and culture for the department and will decide what type of individuals will be hired as police officers.
- The department will interact with government officials and the community to set the priorities for law enforcement activities.

Individual Community Members

Most criminal behavior is unorganized and may be dependent on the characteristics of the individual. Certain factors may contribute to an increased propensity to commit crimes including substance abuse and addiction, poverty, mental health and medical conditions, lack of family support, unemployment, and poor education.

Police Officers

Like members of the community, an officer's behavior will be impacted by their personal background and experience. Officers can have mental health and substance abuse issues as well as bias and prejudice that could negatively impact how they conduct themselves on the job.

Officer-Civilian Interactions

Officers may encounter members of the community in a variety of ways:

- They may be called by victims or witnesses of criminal activity, or they may be asked to help with non-criminal emergencies or problems.
- Officers may stop individuals when they observe unlawful behavior, or they believe the suspect was previously engaged in criminal conduct.
- Officers may be directed to interact with the public for a specific reason such as community policing or DUI emphasis patrols.
- The type of interaction between an officer and a civilian will depend on the severity of the offense being investigated. This can range from a homicide investigation (violent felony) to making a traffic stop for a defective taillight (civil infraction). Officers may also contact

individuals who are not currently engaging in criminal activity but have an active warrant for their arrest.

Police Investigation

After an officer contacts a person who is suspected of engaging in unlawful behavior, the officer will investigate to determine what happened and then decide what the most appropriate law enforcement action should be. This will involve identifying the suspect and running a criminal history and warrants check, interviewing the suspect, victims, and witnesses, and gathering evidence. The quality of this interaction will depend on the demeanor and professionalism of the officer and the level of respect and cooperation from the suspect, victim, and witnesses. If either side fails to act in an appropriate manner, the situation can deteriorate rapidly leading to adverse actions such as the use of force. While conducting the investigation, the officer has the discretion to ask the suspect for consent to search the suspect's person and/or vehicle. The officer may also conduct a pat down search for weapons if there is reason to believe that the suspect may be armed or dangerous.

Final Law Enforcement Action

Once the investigation has been completed, the officer must decide what type of law enforcement actions to take if any. This can range from releasing a person with a warning to making an arrest and booking the person into jail. The type of law enforcement action taken and the level of discretion available to the officer will depend on the type of offense involved. For example:

- There are some domestic violence crimes where state law requires the officer to make an arrest and book the person into jail.
- If an officer contacts a person who has committed a violent felony it is unlikely the suspect will be released with a warning.
- If the officer stops a driver for speeding the officer only has an option of writing an infraction or giving a warning since speeding is not a criminal offense.

Examining how officers choose to exercise their discretion is a critical component of any disparity analysis.

Criminal Justice System

If an officer makes an arrest or issues a criminal citation or civil infraction, then the suspect will enter the criminal justice system as a defendant. As the defendant works his way through the system, he will be impacted by the discretionary decisions of prosecutors, judges, juries, probation officers and jail guards. Each of these decisions has the potential to be influenced by racial bias and prejudice which may impact the disparities observed in the data.

Given the complexities of the entire framework for policing, it is expected that demographic disparities by age, race and sex will be observed when compared with the underlying population. While these disparities are often viewed as a negative outcome of law enforcement practices, it is not possible to address these disparities by focusing solely on individual officer behavior. Instead, it is necessary to examine the entire framework and identify those areas that have the greatest impact on disparities so that effective corrective measures and reforms can be implemented.

Quantity of Policing vs Quality of Policing[71]

Racial disparity studies in policing tend to focus exclusively on the quantity of policing and the size of the racial disparities observed. The problem with this type of analysis is that it can lead to a considerable number of both false positive and false negative findings. If an officer stopped a disparate number of individuals in a particular racial group, that officer would be flagged as potentially biased even if all the officer's actions were lawful, fair, and unbiased. Similarly, an officer who does not have racially disparate stop statistics would be assumed to be an unbiased officer even if the officer used racial slurs during every stop involving a person of color.

To illustrate this point, here is a hypothetical example of two officers named Officer Fair and Officer Bias who work for the Mayberry Police Department. The City of Mayberry has a population of 100,000 where 30% of city residents are Black and 70% are White. Over the last 12 months Officer Fair and Officer Bias each used force ten times. Officer Fair used force against 4 White subjects and 6 Black subjects, and each use of force was necessary, constitutional, and within policy. Officer Fair always acts professionally and respectfully with every person he arrests. Officer Bias used force against 7 White subjects and 3 Black subjects, and each use of force was found to be necessary, constitutional and within policy. However, Officer Bias is biased against Black people and that bias is reflected in several different ways. Officer Bias is disrespectful towards Black subjects and uses profanity and a harsh tone with Black arrestees. Although Officer Bias does not engage in excessive force that is a violation of policy, he tends to use higher levels of force against Black subjects than White subjects. The Police Department where the officers work has an Early Warning System that flags officers who have a disproportionate number of contacts with people of color. The system flagged Officer Fair for engaging in potentially discriminatory behavior.

[71] The quality of policing is often referred to as "procedural justice."

Table 11: Risk Ratio Example

		Uses of Force		Risk Ratio UOF/Population	
Subject Race	**Population**	**Officer Bias**	**Officer Fair**	**Officer Bias**	**Officer Fair**
White	70%	70%	40%	1.0	0.6
Black	30%	30%	60%	1.0	2.0

If the disparity analysis is based solely on the racial composition of use of force subjects for each officer and these numbers are compared to the population, then a high racial disparity would be an indication of racial bias. Based on the numbers, Officer Fair would be identified as biased while Officer Bias would be seen as unbiased. Officer Fair used force against Black subjects twice as often as we would expect based on the population and twice as often as Officer Bias.

The disparity analysis would flag Officer Fair as potentially engaging in racial profiling (false positive) while Officer Bias would be ignored by the system even though he is engaged in biased and unprofessional behavior (false negative).

The quantity of policing is driven by factors that are external to the department such as criminal behavior as well as internal factors like police budgets and staffing. It is difficult for police chiefs to have an impact on the quantity of policing through traditional reform measures. On the other hand, police departments have a great deal of influence over the quality of policing through their policies, training, accountability systems and supervision. Openness and transparency can also improve the community's perception of the department.

Figure 1: Factors Impacting the Quantity of Policing Services

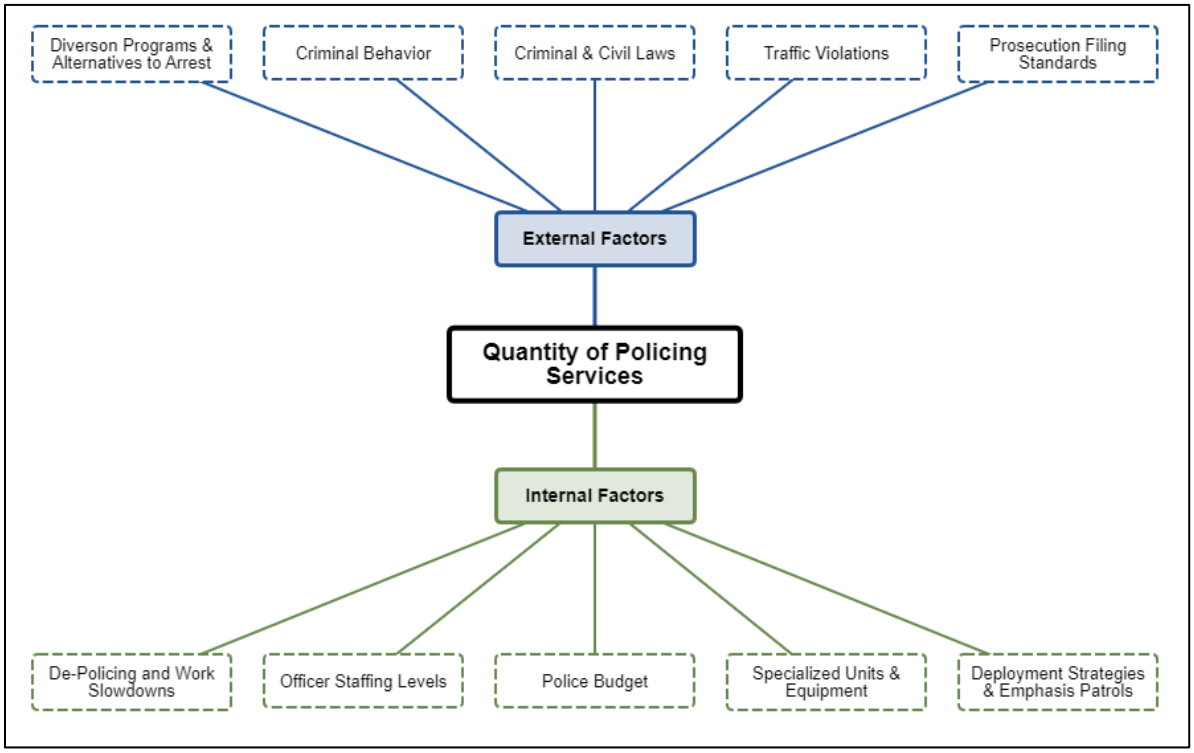
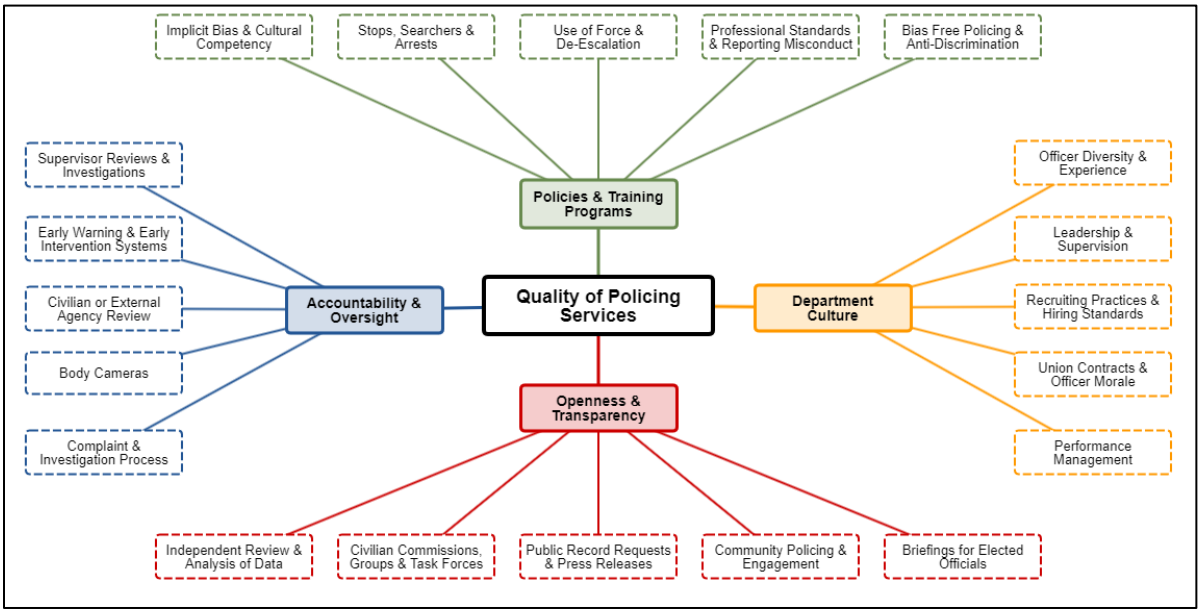
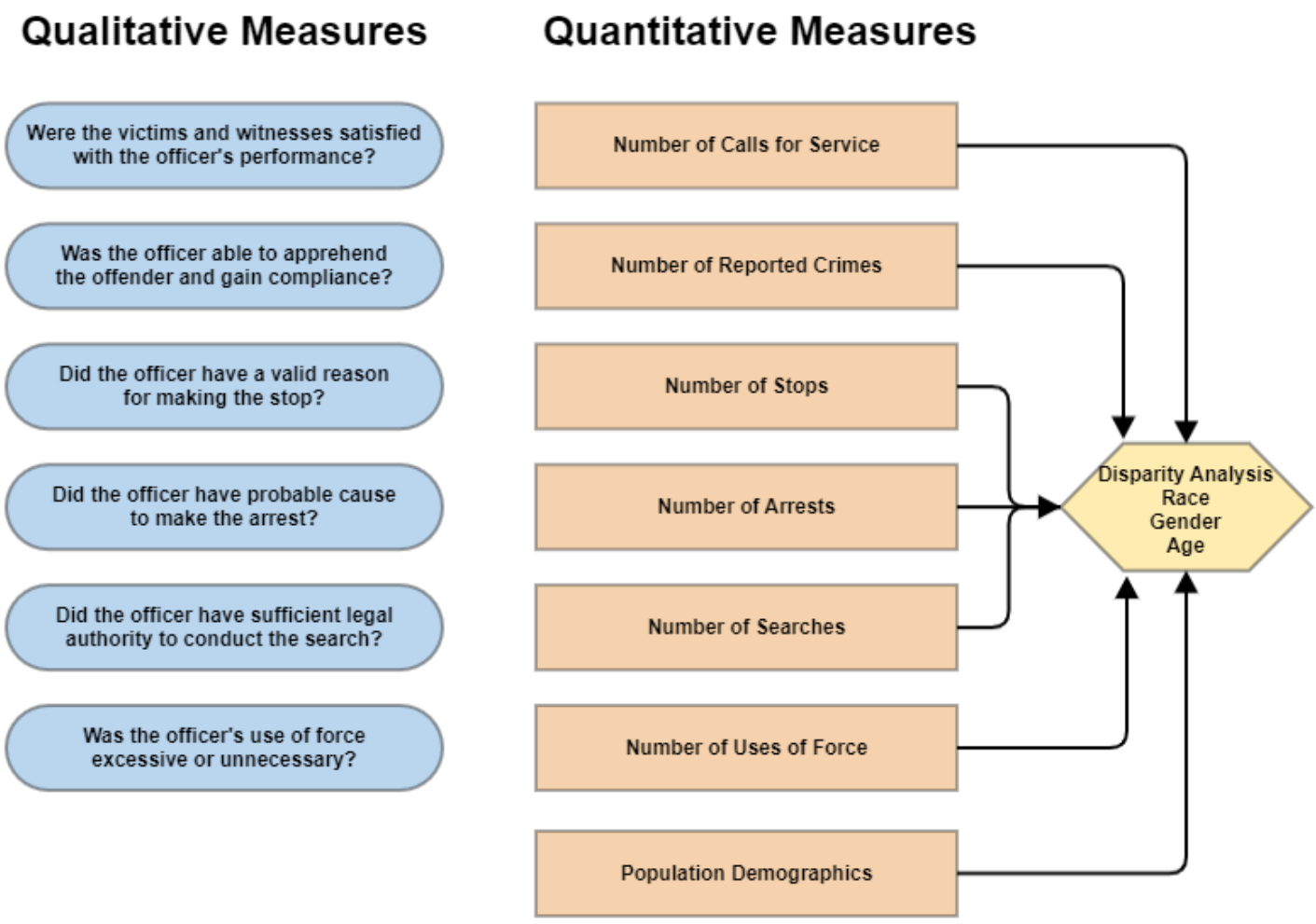


Figure 2: Factors Impacting the Quality of Policing Services



Racial disparity studies typically focus exclusively on quantitative measures. These studies will count the number of calls for service, the numbers of stops, arrests, uses of force, etc. This type of quantitative data can answer some questions about racial disparities, but to do a thorough assessment of the issue, qualitative data must also be collected and incorporated into the analysis.

Figure 3: Evaluating Police Performance



Procedural Justice

When we speak about the quality of policing, we are referring to procedural justice. Procedural justice speaks to four principles, often referred to as the four pillars: 1) being fair in processes, 2) being transparent in actions, 3) providing opportunity for voice, and 4) being impartial in decision making. While a detailed examination of procedural justice issues is beyond the scope of this study, many resources are available online[72] and we recommend that the Duluth PD focus on procedural justice issues in future studies.

Discretion vs Discrimination

We have refined the disparity analysis even further by examining demographic disparities in the context of officer discretion. If disparities are present in activities where the officer has a high degree of discretion, this could be a strong indicator that racial bias is present or racial profiling is occurring. On the other hand, if the same level of disparity is present in low discretion activities, it is less likely that officer bias is contributing to those disparities.

Figure 4: Police Bias Risk Matrix

		Racial Disparity		
		Positive	None	Negative
Officer Discretion	High	High Risk of Bias	Medium Risk of Bias	Low Risk of Bias
	Medium	High Risk of Bias	Medium Risk of Bias	Low Risk of Bias
	Low	Medium Risk of Bias	Low Risk of Bias	Low Risk of Bias

[72] Procedural Justice and Police Legitimacy Resources, California Commission on Peace Officer Standards and Training

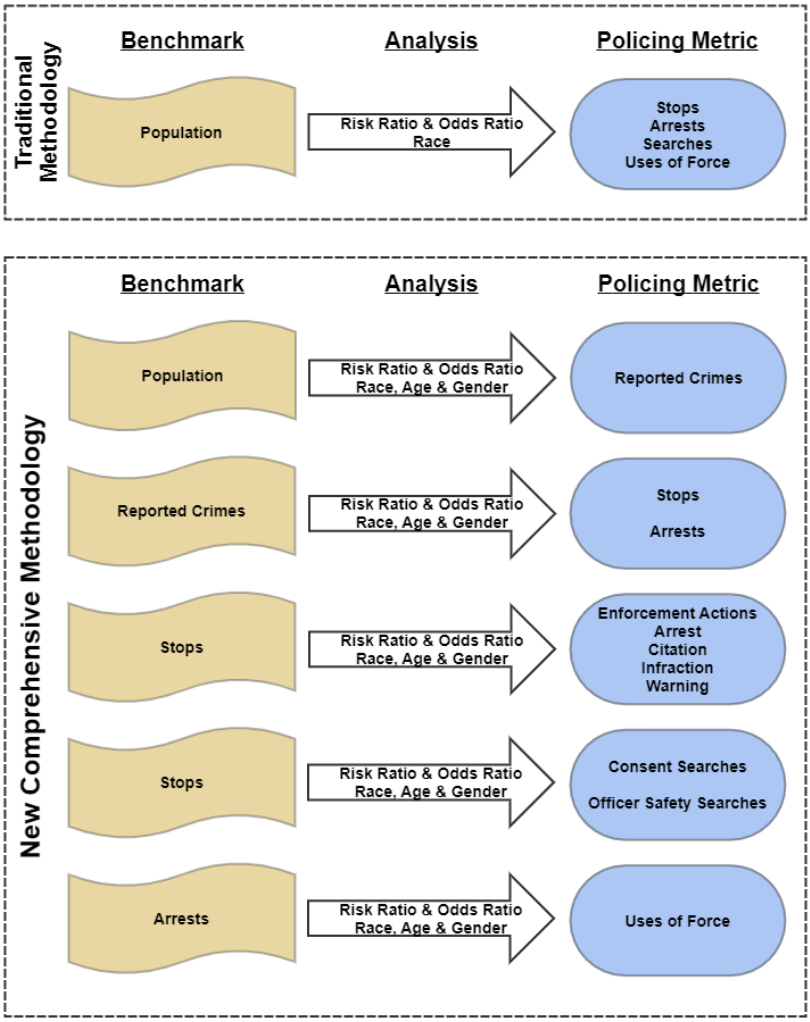
If a department desires to change officer behavior in an area where officers are able to exercise a high degree of discretion, officer behavior can be modified through policy changes, training, supervision, and accountability. By contrast, modifying officer behavior in low discretion situations may require changes to the laws or regulations that limit the officer's discretion. In addition, there may be ways to limit an officer's exposure to some types of situations that lead to the unwanted outcomes. For example, some agencies have implemented restrictions[73] on an officer's ability to pursue eluding vehicles and fleeing suspects.[74]

[73] "Why High-Speed Police Chases Are Going Away," Popular Mechanics, May 30, 2013.
[74] 13.031 - Vehicle Eluding/Pursuits, Seattle Police Department Manual.

Benchmarking

A critical component of any disparity analysis is the benchmark that is used as the baseline for the risk ratio calculation. The traditional racial disparity methodology relies on the census population as the primary benchmark and uses population-based benchmarks to produce the Risk Ratios and Odds Ratios. This report uses one population-based calculation when comparing the demographics of suspects in reported crimes with the demographics of the census population of the City of Duluth. Our new disparity methodology relies primarily on activity-based benchmarks. Each Risk Ratio is calculated using the immediately preceding policing activity that is most closely correlated with the activity being measured.

Figure 5: Benchmarking for Disparity Analysis



- **Population as the Benchmark for Reported Crimes**

  The demographics of a city's population are a relevant benchmark for an examination of disparities with identified subjects in reported crimes. By using population as a benchmark, we can determine whether certain types of individuals are more or less likely to be reported as being involved in criminal activity.

- **Reported Crimes as the Benchmark for Stops and Arrests**

  Stops and arrests made by police officers will be heavily influenced by calls for service (911 calls reporting crimes and non-emergency calls for service) and unlawful conduct that is observed by officers (officer-initiated stops). An agency's deployment strategy will be based, at least in part, on calls for service. Areas with a higher number of reported crimes will receive a greater proportion of policing services. Therefore, reported crimes is a more appropriate benchmark for stops and arrests than the city's population. For example, if 20% of a city's population were young White Males but 80% of all reported crimes involved young White Males, we expect the demographics of police stops and arrests to mirror reported crimes and not the population. If there were significant disparities between stops/arrests and reported crimes, then we would want to examine this in more detail to determine the root causes of these unexpected disparities.

- **Stops as a Benchmark for Arrests and Searches**

  A stop is a precursor for any subsequent law enforcement action such as an making an arrest, issuing an infraction or citation, conducting a search, or using force.

- **Arrests as Benchmark for Uses of Force**

  Officers may only use force if they have reason to believe that the suspect is engaged in criminal activity and the suspect presents some level of resistance to the officer's commands or actions or is threatening the officers or others. Since almost all uses of force are associated with an arrest, arrests are the best benchmark to measure disparities in uses of force.

Legal Framework for Policing

Residents of Duluth are not at equal risk of being stopped by Duluth police officers. To fully understand the dynamics behind officer-civilian interactions we must examine both the officer's decision-making process to initiate a stop as well as the civilian's behavior that drew the attention of the officer.

There are five general scenarios where an officer may contact or stop an individual for investigatory purposes:

1) Non-Custodial Interview

   A voluntary and consensual investigatory interview that an officer conducts with a Subject during which the Subject is free to leave and/or decline any of the officer's requests.

2) Terry Stop[75]

   A brief, minimally intrusive seizure of a Subject based upon articulable reasonable suspicion[76] to investigate possible criminal activity. The Subject of a Terry stop is not free to leave. An officer may develop facts to establish probable cause or dispel suspicion.

[75] In Terry v. Ohio, 392 U.S. 1 (1968), the court recognized that a limited stop and frisk of an individual could be conducted without a warrant based on less than probable cause. The stop must be based on a reasonable, individualized suspicion based on articulable facts, and the frisk is limited to a pat-down for weapons. Reasonable suspicion has been defined by the United States Supreme Court as "the sort of common-sense conclusion about human behavior upon which practical people . . . are entitled to rely." Further, it has defined reasonable suspicion as requiring only something more than an "unarticulated hunch." It requires facts or circumstances that give rise to more than a bare, imaginary, or purely conjectural suspicion.

[76] Reasonable Suspicion: Specific, objective, articulable facts, which, taken together with rational inferences, would create a well-founded suspicion that there is a substantial possibility that a Subject has engaged, is engaging or is about to engage in criminal conduct. Reasonable suspicion is a step before probable cause. At the point of reasonable suspicion, it appears that a crime may have been committed. The situation escalates to probable cause when it becomes obvious that a crime has been committed.

During a Terry Stop, a Subject may be briefly detained and frisked for weapons, but this type of stop does not necessarily allow the officer to search a person or vehicle.

3) Arrest

If an officer has probable cause[77] to believe that a person has committed or is committing a felony, the officer has the authority to arrest the person without a warrant. A police officer may arrest a person without a warrant for committing a misdemeanor or gross misdemeanor only when the offense is committed in the presence of an officer, but there are statutory exceptions to this rule.[78]

4) Traffic Violations

Officers may stop a driver for any violation of state or local traffic laws. A routine traffic stop may turn into a Terry Stop or lead to an arrest if the officer learns of criminal activity during the investigation of the traffic violation.

5) Arrest Warrant

If an officer learns that a Subject has an outstanding warrant the officer has probable cause to make an arrest.

[77] Probable cause means that a reasonable person would believe that a crime was in the process of being committed, had been committed, or was going to be committed. The officer must have a good faith belief that a crime has been committed and the individual he is arresting committed the crime.
[78] See Revised Code of Minnesota RCW 10.31.100

Individuals who are suspected of engaging in violations of the law and this unlawful activity is either reported to or observed by police officers may be stopped and detained. Some individuals are more likely to engage in unlawful activity than others. There are many factors that may affect rates of unlawful behavior and the risks of encountering the police including (in no particular order):

- Sex, Race & Age
- Education & Training
- Poverty & Unemployment
- Housing & Homelessness
- Drugs, Substance Abuse & Addiction
- Mental Health & Medical Support
- Injustice & Civil Unrest
- Peer Pressure, Gangs, Family Conditions
- Social Services & Government Support Available
- Bias & Prejudice
- Neighborhood Conditions

When a crime is reported to or investigated by the police, a suspect description will be recorded with general appearance information (e.g. sex, race, age, height, weight, build, hair color, eye color, etc.). This information may be reported to the 911 dispatcher or recorded in an incident report by the investigating officers. This demographic information is primarily used for identification purposes. When we examine criminal behavior and the types of individuals who commit crimes, only basic demographic information (age, race, and sex) is available. This data can be used to measure disparities with the underlying population, but it does not provide a full description of the individuals who commit crimes and what may be causing them to offend. Individuals are not genetically predisposed to criminal behavior and demographic characteristics do not, in and of themselves, determine whether someone will commit a crime. If the suspect descriptions in reported crimes also included information on the suspect's income and education levels, substance abuse and mental health issues, and employment and housing status, we would be able to get a much better sense of the factors that influence people to commit crimes.

Reported Crimes Compared to the Population

FBI UCR Part I Reported Crimes for Cities in Minnesota[79]

Duluth is the fifth largest city in Minnesota. Duluth has the sixth highest violent crime rate of the twenty-five largest cities in the state with thirty-four reported crimes per 10,000 population in 2019. Duluth has the fourth highest property crime rate with 428 reported crimes per 10,000 population. These numbers do not reflect the total crime rate because the UCR system only includes data on the most serious types of crimes against persons and property as well as selected crimes against society. Reports and enforcement of local criminal laws, traffic offenses and some misdemeanors are not included in the UCR data.

Table 12: FBI Uniform Crime Reports for 25 Largest Cities in Minnesota – 2019

			FBI Part I Uniform Crime Reports (UCR) for 2019					
City Size Rank	City	Population	Violent Crimes	Property Crimes	Violent Crime Rate per 10,000	Property Crime Rate per 10,000	Violent Crime Rank	Property Crime Rank
1	Minneapolis	431,016	3,990	19,469	93	452	1	3
2	St. Paul	310,263	1,752	11,208	56	361	2	5
3	Rochester	118,267	254	2,225	21	188	10	16
4	Bloomington	85,902	203	3,079	24	358	8	6
5	**Duluth**	**85,846**	**292**	**3,670**	**34**	**428**	**6**	**4**
6	Brooklyn Park	81,211	299	2,760	37	340	5	9
7	Plymouth	80,616	37	938	5	116	25	23
8	Maple Grove	73,170	58	1,107	8	151	19	21
9	Woodbury	72,527	45	1,264	6	174	22	19
10	St. Cloud	68,311	298	2,443	44	358	3	7
11	Lakeville	67,206	45	564	7	84	21	25
12	Eagan	66,824	39	1,294	6	194	23	15
13	Blaine	66,260	61	1,586	9	239	16	12
14	Eden Prairie	64,777	52	700	8	108	18	24
15	Burnsville	61,306	103	1,621	17	264	14	11
16	Apple Valley	54,779	51	1,062	9	194	15	14
17	Minnetonka	54,497	30	772	6	142	24	22
18	Edina	53,076	47	983	9	185	17	17
19	St. Louis Park	49,535	89	1,396	18	282	13	10
20	Mankato	42,955	110	1,462	26	340	7	8
21	Shakopee	41,892	81	745	19	178	12	18
22	Maplewood	41,341	158	2,080	38	503	4	2
23	Cottage Grove	37,534	29	590	8	157	20	20
24	Roseville	36,750	83	2,164	23	589	9	1
25	Richfield	36,100	73	850	20	235	11	13
	All MN Cities	3,890,112	10,963	98,928	28	254		

[79] "2019 Crime in the United States – Minnesota – Offenses Known to Law Enforcement by City – 2019," U.S. Department of Justice, Federal Bureau of Investigation, Criminal Justice Information Services Division.

NIBRS[80] Reported Crimes – 38 Minnesota Agencies - Risk Ratio Analysis

In 2019, there were 5,465 violent-crime incidents and 40,276 property-crime incidents reported by thirty-eight law enforcement agencies in Minnesota that submitted National Incident-Based Reporting System (NIBRS) data. These agencies account for 35% of the total state population.

This section calculates risk ratios and odds ratios for NIBRS reported crimes for the Duluth Police Department and then compares those ratios with other jurisdictions in Minnesota and the United States.

In Minnesota Males are six times more likely than Females to be involved in reported crimes. Black subjects are thirty-three times more likely to be involved in reported crimes than White subjects and Native American subjects are fourteen times more likely than White subjects to be reported as a crime suspect. Juveniles and those over 50 are less likely to be involved in reported crimes while those between the ages of 18 and 29 are more three times as likely to be a reported crime suspect.

Demographic disparities were smaller for reported property crimes. Males were twice as likely as Females to be reported as a suspect in a property crime. Compared to White subjects, Black subjects were twelve times more likely to be reported as a property crime suspect, and Native American subjects were eight times more likely. Disparities by age were similar for both property and violent crimes.

[80] National Incident-Based Reporting System (NIBRS), Criminal Justice Information Services (CJIS), Federal Bureau of Investigation.

Table 13: NIBRS Reported Violent Crimes – 38 Minnesota Agencies – 2019

			Reported Violent Crimes		
	Demographics	Minnesota Population	Reported Offenders	Risk Ratio	Odds Ratio
Sex	Female	50.2%	14.6%	0.3	1
	Male	49.8%	85.4%	1.7	5.9
Race	White	86.0%	24.7%	0.3	1
	Black	7.2%	68.5%	10	33
	Nat Amer	1.4%	5.6%	4	14
	Asian	5.4%	1.2%	0.2	0.8
Age	0-17	23.1%	12.9%	0.6	
	18-29	15.5%	47.7%	3.1	
	30-39	13.7%	22.8%	1.7	
	40-49	11.8%	8.8%	0.7	
	50+	35.8%	7.7%	0.2	

Table 14: NIBRS Reported Property Crimes – 38 Minnesota Agencies – 2019

			Reported Property Crimes		
	Demographics	Minnesota Population	Reported Offenders	Risk Ratio	Odds Ratio
Sex	Female	50.2%	31.6%	0.6	1
	Male	49.8%	68.4%	1.4	2.2
Race	White	86.0%	45.3%	0.5	1
	Black	7.2%	47.3%	7	12
	Nat Amer	1.4%	6.2%	4	8
	Asian	5.4%	1.3%	0.2	0.4
Age	0-17	23.1%	11.4%	0.5	
	18-29	15.5%	42.1%	2.7	
	30-39	13.7%	26.8%	2.0	
	40-49	11.8%	10.0%	0.8	
	50+	35.8%	9.7%	0.3	

Type of Crime Reported – Risk Ratio Analysis

This section calculates demographic risk ratios by the types of crimes reported to Duluth PD.

Table 15: Reported Crime Types to Duluth Police Department by Suspect Sex

FBI Crime Category	Female	Male	Total Calls	% of Total
Domestic	73.9%	26.1%	4,630	20.1%
Assault	29.2%	70.8%	3,977	17.3%
Theft	39.7%	60.3%	3,921	17.0%
Other	22.1%	77.9%	3,456	15.0%
DUI	29.2%	70.8%	1,100	4.8%
Disturbance	28.8%	71.2%	1,076	4.7%
Drugs	27.5%	72.5%	1,075	4.7%
Sex Crime	9.7%	90.3%	796	3.5%
Vandalism	26.6%	73.4%	741	3.2%
Fraud	41.8%	58.2%	698	3.0%
Liquor Laws	25.7%	74.3%	575	2.5%
Burglary	24.5%	75.5%	486	2.1%
Auto Theft	26.2%	73.8%	252	1.1%
Weapon	5.6%	94.4%	126	0.5%
Robbery Kidnap	25.4%	74.6%	114	0.5%
Homicide	36.4%	63.6%	11	0.0%
Total Calls	38.1%	61.9%	23,034	100%
Duluth Population	51.3%	48.7%		

Males are eighteen times more likely than Females to be involved in a weapon offense and ten times more likely than Females to be the reported suspect in a sex crime. Males were only slightly more likely to be involved in thefts and fraud incidents than Females were. The only crime category where Females outnumbered Males was Domestic. However, it appears that this crime category involves any domestic issue and not just domestic violence.

Table 16: Risk Ratios and Odds Ratios – DPD Reported Crimes by Suspect Sex

	Risk Ratios		Odds Ratio		
FBI Crime Category	**Female**	**Male**	**Male/Female**	**Total Calls**	**% of Total**
Domestic	**1.4**	**0.5**	**0.4**	4,630	20.1%
Assault	**0.6**	**1.5**	**2.6**	3,977	17.3%
Theft	**0.8**	**1.2**	**1.6**	3,921	17.0%
Other	**0.4**	**1.6**	**3.7**	3,456	15.0%
DUI	**0.6**	**1.5**	**2.6**	1,100	4.8%
Disturbance	**0.6**	**1.5**	**2.6**	1,076	4.7%
Drugs	**0.5**	**1.5**	**2.8**	1,075	4.7%
Sex Crime	**0.2**	**1.9**	**10**	796	3.5%
Vandalism	**0.5**	**1.5**	**2.9**	741	3.2%
Fraud	**0.8**	**1.2**	**1.5**	698	3.0%
Liquor Laws	**0.5**	**1.5**	**3.0**	575	2.5%
Burglary	**0.5**	**1.6**	**3.2**	486	2.1%
Auto Theft	**0.5**	**1.5**	**3.0**	252	1.1%
Weapon	**0.1**	**1.9**	**18**	126	0.5%
Robbery Kidnap	**0.5**	**1.5**	**3.1**	114	0.5%
Homicide	**0.7**	**1.3**	**1.8**	11	0.0%
Total Calls	**0.7**	**1.3**	**1.7**	23,034	100%
Duluth Population	51.3%	48.7%			

Table 17: Reported Crime Types to Duluth Police Department by Suspect Race

FBI Crime Category	White	Black	Nat Am	Asian	Total Calls	% of Total
Domestic	62.0%	19.4%	18.0%	0.6%	4,630	20.1%
Assault	53.6%	28.8%	17.2%	0.3%	3,977	17.3%
Theft	60.3%	18.9%	20.3%	0.6%	3,921	17.0%
Other	56.6%	22.7%	20.3%	0.4%	3,456	15.0%
DUI	84.0%	9.1%	5.8%	1.1%	1,100	4.8%
Disturbance	60.0%	21.4%	18.3%	0.4%	1,076	4.7%
Drugs	57.1%	25.0%	16.7%	1.2%	1,075	4.7%
Sex Crime	61.3%	22.6%	15.6%	0.6%	796	3.5%
Vandalism	59.6%	19.6%	20.3%	0.4%	741	3.2%
Fraud	66.5%	15.1%	17.7%	0.7%	698	3.0%
Liquor Laws	71.4%	7.6%	20.7%	0.4%	575	2.5%
Burglary	57.9%	20.4%	21.5%	0.2%	486	2.1%
Auto Theft	62.2%	16.8%	19.7%	1.3%	252	1.1%
Weapon	50.0%	41.0%	8.2%	0.8%	126	0.5%
Robbery Kidnap	27.3%	40.9%	30.9%	0.9%	114	0.5%
Homicide	33.3%	41.7%	25.0%	0.0%	11	0.0%
Total Calls	60.1%	21.2%	18.1%	0.5%	23,034	100%
Duluth Population	94.1%	2.4%	1.9%	1.7%		

Black and Native American subjects were more than forty times more likely than White subjects to be reported as a suspect in a robbery, kidnapping or homicide incident. Black and Native American subjects were more than ten times more likely than White subjects to be involved in all types of crimes except for driving under the influence and fraud and liquor violations (for Black subjects) and weapon offenses (for Native American subjects). Asian subjects were less likely than White subjects to be involved in all types of crimes except for robbery, kidnapping, and drug offenses.

Table 18: Risk Ratios and Odds Ratios – DPD Reported Crimes by Suspect Race

	Risk Ratios				Odds Ratios				
FBI Crime Category	White	Black	Nat Am	Asian	Black	Nat Am	Asian	Total Calls	% of Total
Domestic	0.7	8	10	0.3	12	15	0.5	4,630	20.1%
Assault	0.6	12	9	0.2	21	16	0.4	3,977	17.3%
Theft	0.6	8	11	0.4	12	17	0.6	3,921	17.0%
Other	0.6	10	11	0.2	16	18	0.4	3,456	15.0%
DUI	0.9	4	3	0.7	4	3	0.7	1,100	4.8%
Disturbance	0.6	9	10	0.2	14	15	0.4	1,076	4.7%
Drugs	0.6	10	9	0.8	17	15	1.2	1,075	4.7%
Sex Crime	0.7	9	8	0.3	15	13	0.5	796	3.5%
Vandalism	0.6	8	11	0.3	13	17	0.4	741	3.2%
Fraud	0.7	6	9	0.4	9	13	0.6	698	3.0%
Liquor Laws	0.8	3	11	0.2	4	15	0.3	575	2.5%
Burglary	0.6	9	11	0.1	14	19	0.2	486	2.1%
Auto Theft	0.7	7	11	0.8	11	16	1.1	252	1.1%
Weapon	0.5	17	4	0.5	32	8	0.9	126	0.5%
Robbery Kidnap	0.3	17	17	0.5	59	57	1.9	114	0.5%
Homicide	0.4	17	13	0.0	49	38	0.0	11	0.0%
Total Calls	0.6	9	10	0.3	14	15	0.5	23,034	100%
Duluth Population	94.1%	2.4%	1.9%	1.7%					

Table 19: Reported Crime Types to Duluth Police Department by Suspect Age

FBI Crime Category	0-17	18-29	30-49	50+	Total Calls	% of Total
Domestic	1.2%	33.1%	58.6%	7.1%	4,630	20.1%
Assault	11.8%	33.8%	44.4%	10.1%	3,977	17.3%
Theft	7.7%	39.0%	43.7%	9.6%	3,921	17.0%
Other	7.1%	33.3%	46.6%	13.1%	3,456	15.0%
DUI	0.2%	46.7%	38.0%	15.1%	1,100	4.8%
Disturbance	8.7%	29.0%	42.1%	20.2%	1,076	4.7%
Drugs	6.8%	41.0%	43.9%	8.3%	1,075	4.7%
Sex Crime	23.7%	26.5%	35.9%	13.9%	796	3.5%
Vandalism	11.3%	42.1%	40.5%	6.1%	741	3.2%
Fraud	2.5%	30.6%	53.9%	13.0%	698	3.0%
Liquor Laws	11.7%	54.3%	22.5%	11.5%	575	2.5%
Burglary	7.6%	44.4%	43.9%	4.0%	486	2.1%
Auto Theft	10.2%	44.7%	42.1%	3.0%	252	1.1%
Weapon	8.5%	45.8%	35.6%	10.2%	126	0.5%
Robbery Kidnap	20.4%	51.9%	22.2%	5.6%	114	0.5%
Homicide	16.7%	41.7%	41.7%	0.0%	11	0.0%
Total Calls	7.4%	36.2%	46.0%	10.4%	23,034	100%
Duluth Population	17.2%	25.8%	24.1%	32.9%		

Compared to their proportion of the population, juveniles are underrepresented in every crime category except sex crimes and robbery/kidnapping. Subjects between 18 and 29 are most overrepresented in liquor offenses and robbery/kidnapping while those between 30 and 49 are more commonly found as suspects in domestic incidents and fraud cases. Subjects over 50 are underrepresented in every crime category compared to their share of the population.

Table 20: Risk Ratios – DPD Reported Crimes by Suspect Age

	Risk Ratios					
FBI Crime Category	**0-17**	**18-29**	**30-49**	**50+**	**Total Calls**	**% of Total**
Domestic	**0.1**	**1.3**	**2.4**	**0.2**	4,630	20.1%
Assault	**0.7**	**1.3**	**1.8**	**0.3**	3,977	17.3%
Theft	**0.4**	**1.5**	**1.8**	**0.3**	3,921	17.0%
Other	**0.4**	**1.3**	**1.9**	**0.4**	3,456	15.0%
DUI	**0.0**	**1.8**	**1.6**	**0.5**	1,100	4.8%
Disturbance	**0.5**	**1.1**	**1.7**	**0.6**	1,076	4.7%
Drugs	**0.4**	**1.6**	**1.8**	**0.3**	1,075	4.7%
Sex Crime	**1.4**	**1.0**	**1.5**	**0.4**	796	3.5%
Vandalism	**0.7**	**1.6**	**1.7**	**0.2**	741	3.2%
Fraud	**0.1**	**1.2**	**2.2**	**0.4**	698	3.0%
Liquor Laws	**0.7**	**2.1**	**0.9**	**0.3**	575	2.5%
Burglary	**0.4**	**1.7**	**1.8**	**0.1**	486	2.1%
Auto Theft	**0.6**	**1.7**	**1.7**	**0.1**	252	1.1%
Weapon	**0.5**	**1.8**	**1.5**	**0.3**	126	0.5%
Robbery Kidnap	**1.2**	**2.0**	**0.9**	**0.2**	114	0.5%
Homicide	**1.0**	**1.6**	**1.7**	**0.0**	11	0.0%
Total Calls	**0.4**	**1.4**	**1.9**	**0.3**	23,034	100%
Duluth Population	17.2%	25.8%	24.1%	32.9%		

Arrests Compared to Reported Crimes

UCR Arrests and Reported Crimes in Minnesota[81]

Three years of data (2018 to 2020) on UCR arrests and reported crimes for all law enforcement agencies in Minnesota was obtained from the Minnesota Justice Information Services Unform Crime Reports.[82] The data was sorted by the total number of arrests and the demographics of arrestees for each offense category were calculated. Arrest rates for each offense were calculated by dividing the number of arrests by the number of reported crimes.

Between 2018 and 2020 nearly a million crimes were reported to Minnesota law enforcement agencies. Fifty-three percent were property crimes, 12% were violent crimes, and 35% were other crimes.

Larceny was the most commonly reported Part I crime which made up 68% of all Part I offenses followed by burglary (12%), motor vehicle theft (9%) and aggravated assault (6%). For Part II offenses vandalism made up 14% of all reported crimes followed by assaults (13%), fraud (11%), DUI (10%) and drug crimes (10%).

Some types of offenses had arrest rates of near 100% or more. Arrests for these types of offenses were likely the result of an officer-initiated contact where the officer witnessed the criminal behavior. The following offenses had an arrest rate of more than 90%:

- Juvenile Curfew and Loitering – 225%
- Liquor laws – 168%
- DUI – 99%
- Drugs – 93%

Curfew, loitering and liquor laws had arrest rates greater than 100% which may have been caused by officers observing the behavior, making an arrest and not categorizing the incident as

[81] Minnesota Justice Information Services Unform Crime Reports from 2018, 2019 & 2020, State of Minnesota Department of Public Safety, Minnesota Bureau of Criminal Apprehension.
[82] Id.

a reported crime. There were 108 arrests for purchasing prostitution but no reports of this type of offense. This is probably due to the fact that all the arrests were the result of undercover sting operations.

Half of all reported violent crimes resulted in an arrest, but only one in five property crimes resulted in an arrest. Three quarters of other crimes ended in an arrest.

Table 21: Minnesota Arrest Rates by Offense Type and Arrestee Demographics – 2018 to 2020

				Arrestee Sex		Arrestee Race				Arrestee Age			
Offense	Reported Crimes	Total Arrests	Arrest Rate	Female	Male	White	Black	Native Amer	Asian	0 - 17	18 to 35	35 to 50	50+
Larceny	267,085	58,634	22%	46%	54%	59%	33%	6.3%	2.0%	14%	52%	24%	10%
Aggravated Assault	21,793	11,509	53%	20%	80%	50%	40%	7.0%	2.9%	10%	54%	26%	11%
Burglary	49,028	6,114	12%	17%	83%	61%	31%	5.9%	2.1%	15%	55%	24%	6%
Motor Vehicle Theft	36,043	4,326	12%	22%	78%	47%	38%	8.2%	7.0%	27%	53%	16%	3%
Robbery	9,953	3,256	33%	15%	85%	20%	73%	5.9%	0.9%	35%	52%	10%	4%
Rape	7,514	1,790	24%	3%	97%	67%	28%	2.8%	2.3%	18%	51%	21%	10%
Arson	1,607	340	21%	22%	78%	70%	24%	1.8%	4.0%	30%	38%	22%	10%
Murder	422	326	77%	11%	89%	36%	54%	7.6%	3.2%	9%	61%	22%	8%
Human Trafficking	417	321	77%	8%	92%	58%	31%	2.6%	8.6%	1%	53%	33%	14%
Other (except Traffic)	122,287	91,213	75%	24%	76%	60%	29%	8.5%	2.4%	11%	51%	26%	11%
DUI	59,307	58,465	99%	28%	72%	82%	12%	2.7%	3.1%	1%	53%	29%	18%
Drug Abuse	58,871	54,488	93%	27%	73%	71%	21%	5.8%	2.7%	7%	63%	23%	7%
Other Assaults	78,602	43,669	56%	25%	75%	61%	32%	5.7%	2.3%	14%	48%	27%	11%
Disorderly Conduct	42,153	23,484	56%	30%	70%	65%	29%	5.1%	1.3%	21%	42%	23%	14%
Liquor Laws	10,777	18,128	168%	36%	64%	81%	14%	4.1%	1.7%	23%	63%	7%	6%
Fraud	65,802	10,720	16%	33%	67%	52%	41%	4.8%	2.4%	5%	55%	29%	12%
Vandalism	82,949	7,936	10%	22%	78%	63%	29%	6.3%	2.1%	24%	51%	19%	6%
Stolen Property	7,583	6,367	84%	24%	76%	51%	36%	8.9%	3.7%	13%	59%	23%	5%
Weapons	11,072	6,359	57%	10%	90%	40%	53%	3.7%	3.5%	13%	62%	18%	7%
Forgery / Counterfeiting	14,917	3,117	21%	36%	64%	67%	25%	4.3%	3.5%	2%	59%	31%	8%
Other Sex Offenses	10,874	2,253	21%	4%	96%	67%	26%	2.9%	4.0%	15%	39%	27%	20%
Family / Children	16,874	1,426	8%	37%	63%	53%	33%	4.1%	10%	2%	58%	31%	9%
Vagrancy	680	552	81%	14%	86%	18%	80%	1.4%	0.0%	20%	51%	19%	11%
Prostitution	499	237	47%	29%	71%	50%	30%	1.7%	18%	0%	42%	36%	22%
Purchasing Prostitution	0	108		6%	94%	69%	15%	1.9%	13%	0%	38%	41%	21%
Embezzlement	382	90	24%	50%	50%	72%	23%	0.0%	5.3%	16%	48%	30%	7%
Gambling	105	88	84%	19%	81%	55%	40%	0.0%	4.8%	10%	65%	14%	11%
Curfew / Loitering (Juvenile)	687	1,547	225%	29%	71%	57%	39%	3.4%	0.9%				
Runaways (Juvenile)	6,952	1,216	17%	53%	47%	54%	41%	2.6%	1.9%				
Part I	393,862	86,616	22%	37%	63%	56%	35%	6.4%	2.4%	15%	53%	23%	9%
Part II	583,734	328,700	56%	27%	73%	66%	25%	5.8%	2.5%	11%	53%	25%	11%
Part II Juvenile Offenses	7,639	2,763	36%	40%	60%	56%	40%	3.1%	1.3%				
Violent Crimes	118,701	60,871	51%	22%	78%	56%	35%	5.9%	2.4%	15%	50%	25%	10%
Property Crimes	525,396	97,644	19%	38%	62%	58%	34%	6.3%	2.4%	14%	53%	24%	9%
Other Crimes	341,138	259,564	76%	27%	73%	68%	23%	5.8%	2.5%	11%	54%	24%	12%
Minnesota Population	5,639,632			50%	50%	86%	7.2%	1.4%	5.4%	23%	22%	19%	36%

Table 22: Minnesota Arrests – Risk Ratios by Arrestee Demographics

		Risk Ratios = % Arrests / % Population									
		Arrestee Sex		Arrestee Race				Arrestee Age			
Offense	Total Arrests	Female	Male	White	Black	Native Amer	Asian	0 - 17	18 to 35	35 to 50	50+
Larceny	58,634	0.9	1.1	0.7	4.6	4.5	0.4	0.6	2.3	1.3	0.3
Aggravated Assault	11,509	0.4	1.6	0.6	5.5	5.0	0.5	0.4	2.4	1.4	0.3
Burglary	6,114	0.3	1.7	0.7	4.3	4.2	0.4	0.7	2.4	1.3	0.2
Motor Vehicle Theft	4,326	0.4	1.6	0.5	5.3	5.9	1.3	1.2	2.4	0.9	0.1
Robbery	3,256	0.3	1.7	0.2	10.2	4.2	0.2	1.5	2.3	0.5	0.1
Rape	1,790	0.1	2.0	0.8	3.8	2.0	0.4	0.8	2.3	1.1	0.3
Arson	340	0.4	1.6	0.8	3.3	1.3	0.7	1.3	1.7	1.2	0.3
Murder	326	0.2	1.8	0.4	7.4	5.4	0.6	0.4	2.7	1.2	0.2
Human Trafficking	321	0.2	1.8	0.7	4.3	1.9	1.6	0.0	2.4	1.7	0.4
Other (except Traffic)	91,213	0.5	1.5	0.7	4.0	6.1	0.4	0.5	2.3	1.4	0.3
DUI	58,465	0.6	1.4	1.0	1.6	2.0	0.6	0.0	2.4	1.5	0.5
Drug Abuse	54,488	0.5	1.5	0.8	2.9	4.1	0.5	0.3	2.8	1.2	0.2
Other Assaults	43,669	0.5	1.5	0.7	4.4	4.1	0.4	0.6	2.2	1.4	0.3
Disorderly Conduct	23,484	0.6	1.4	0.8	4.0	3.7	0.2	0.9	1.9	1.2	0.4
Liquor Laws	18,128	0.7	1.3	0.9	1.9	2.9	0.3	1.0	2.8	0.4	0.2
Fraud	10,720	0.7	1.4	0.6	5.7	3.4	0.4	0.2	2.4	1.6	0.3
Vandalism	7,936	0.4	1.6	0.7	4.0	4.5	0.4	1.0	2.3	1.0	0.2
Stolen Property	6,367	0.5	1.5	0.6	5.1	6.3	0.7	0.6	2.7	1.2	0.1
Weapons	6,359	0.2	1.8	0.5	7.4	2.7	0.6	0.5	2.8	1.0	0.2
Forgery / Counterfeiting	3,117	0.7	1.3	0.8	3.4	3.0	0.7	0.1	2.6	1.6	0.2
Other Sex Offenses	2,253	0.1	1.9	0.8	3.6	2.1	0.7	0.6	1.7	1.5	0.5
Family / Children	1,426	0.7	1.3	0.6	4.6	2.9	1.9	0.1	2.6	1.6	0.3
Vagrancy	552	0.3	1.7	0.2	11.1	1.0	0.0	0.8	2.3	1.0	0.3
Prostitution	237	0.6	1.4	0.6	4.2	1.2	3.3	0.0	1.9	1.9	0.6
Purchasing Prostitution	108	0.1	1.9	0.8	2.1	1.4	2.5	0.0	1.7	2.2	0.6
Embezzlement	90	1.0	1.0	0.8	3.1	0.0	1.0	0.7	2.1	1.6	0.2
Gambling	88	0.4	1.6	0.6	5.5	0.0	0.9	0.4	2.9	0.7	0.3
Curfew / Loitering (Juvenile)	1,547	0.6	1.4	0.7	5.4	2.4	0.2				
Runaways (Juvenile)	1,216	1.1	0.9	0.6	5.7	1.9	0.4				
Part I	86,616	0.7	1.3	0.6	4.9	4.5	0.4	0.6	2.4	1.2	0.3
Part II	328,700	0.5	1.5	0.8	3.5	4.2	0.5	0.5	2.4	1.3	0.3
Part II Juvenile Offenses	2,763	0.8	1.2	0.6	5.5	2.2	0.2				
Violent Crimes	60,871	0.4	1.6	0.7	4.9	4.2	0.4	0.6	2.2	1.4	0.3
Property Crimes	97,644	0.8	1.3	0.7	4.7	4.5	0.5	0.6	2.4	1.3	0.3
Other Crimes	259,564	0.5	1.5	0.8	3.2	4.1	0.5	0.5	2.4	1.3	0.3
Minnesota Population	5,639,632	50%	50%	86%	7.2%	1.4%	5.4%	23%	22%	19%	36%

Table 23: Minnesota Arrests – Odds Ratios by Arrestee Demographics

Offense	Total Arrests	Odds Ratios					
		Arrestee Sex		Arrestee Race			
		Female	Male	White	Black	Native Amer	Asian
Larceny	58,634	1	1	1	7	7	0.5
Aggravated Assault	11,509	1	4	1	9	9	0.9
Burglary	6,114	1	5	1	6	6	0.6
Motor Vehicle Theft	4,326	1	4	1	10	11	2
Robbery	3,256	1	6	1	44	18	0.8
Rape	1,790	1	39	1	5	3	0.6
Arson	340	1	4	1	4	2	0.9
Murder	326	1	8	1	18	13	1
Human Trafficking	321	1	11	1	6	3	2
Other (except Traffic)	91,213	1	3	1	6	9	0.6
DUI	58,465	1	3	1	2	2	0.6
Drug Abuse	54,488	1	3	1	4	5	0.6
Other Assaults	43,669	1	3	1	6	6	0.6
Disorderly Conduct	23,484	1	2	1	5	5	0.3
Liquor Laws	18,128	1	2	1	2	3	0.3
Fraud	10,720	1	2	1	9	6	0.7
Vandalism	7,936	1	4	1	5	6	0.5
Stolen Property	6,367	1	3	1	9	11	1
Weapons	6,359	1	9	1	16	6	1
Forgery / Counterfeiting	3,117	1	2	1	4	4	0.8
Other Sex Offenses	2,253	1	24	1	5	3	0.9
Family / Children	1,426	1	2	1	7	5	3
Vagrancy	552	1	6	1	52	5	0.0
Prostitution	237	1	3	1	7	2	6
Purchasing Prostitution	108	1	15	1	3	2	3
Embezzlement	90	1	1	1	4	0	1
Gambling	88	1	4	1	9	0	1
Curfew / Loitering (Juvenile)	1,547	1	2	1	8	4	0.2
Runaways (Juvenile)	1,216	1	1	1	9	3	0.6
Part I	86,616	1	2	1	8	7	0.7
Part II	328,700	1	3	1	5	5	0.6
Part II Juvenile Offenses	2,763	1	2	1	9	3	0.4
Violent Crimes	60,871	1	4	1	7	6	0.7
Property Crimes	97,644	1	2	1	7	7	0.7
Other Crimes	259,564	1	3	1	4	5	0.6
Minnesota Population	5,639,632	50%	50%	86%	7.2%	1.4%	5.4%

Compared to their share of the population of Minnesota, Males are four times more likely than Females to be arrested for a violent crime, three times more likely to be arrested for other crimes and two times more likely to be arrested for a property crime. Black and Native American subjects are about seven times more likely to be arrested than White subjects for violent crimes and property crimes and are about five times more likely to be arrested for other crimes. Individuals between 18 and 35 are more than twice as likely to be arrested for any type of crime when compared with their share of the population while juveniles and people over 50 are more than 50% less likely to be arrested.

The largest disparities for Male arrestees were for rape offenses where Males were thirty-nine times more likely to be arrested than Females. Black subjects were fifty-two times more likely than White subjects to be arrested for vagrancy and forty-four times more likely to be arrested for robbery. Native American subjects were eighteen times more likely than White subjects to be arrested for robbery and thirteen times more likely to be arrested for murder. Asian subjects were six times more likely than White subjects to be arrested for prostitution and three times more likely to be arrested for purchasing prostitution. Juveniles were 50% more likely to be arrested for robbery than expected based on their share of the population. Individuals between 18 and 35 were overrepresented in every type of crime but the disparities were highest for gambling, weapons and liquor laws. Those between 35 and 50 were arrested for most crimes in proportion to their share of the population except for prostitution and purchasing prostitution where they were overrepresented in arrests. Persons over 50 were underrepresented arrests for every offense type, but disparities were lowest for prostitution and purchasing prostitution.

Males and Females were proportionally arrested for larceny and embezzlement. Disparities between Black and White arrestees were lowest for DUI and liquor law violations. Disparities between Native American and White arrestees were lowest for embezzlement, gambling, DUI, Arson, prostitution and purchasing prostitution. During the three-year period examined no juveniles were arrested for prostitution or purchasing prostitution and only 1% of arrests for human trafficking and DUI involved juveniles.

The data for reported crimes and arrests for Duluth PD is not directly comparable to the UCR data for all agencies in Minnesota. However, there are some similar patterns that are observed. The highest arrest rates for Duluth PD are for DUI and drug crimes. These higher arrest rates are likely due to officers initiating the contact after observing criminal behavior. Arrest rates for violent crimes were nearly five times higher than arrest rates for property crimes. Other crimes had the highest arrest rates.

Table 24: Duluth Arrest Rates by Offense Type and Arrestee Demographics

			Arrest Rate	Arrestee Sex		Arrestee Race				Arrestee Age			
FBI Crime Category	Total Calls	Total Arrests	Total	Female	Male	White	Black	Nat Am	Asian	0 - 17	18 - 29	30 - 49	50+
Assault	9,077	1,579	17%	48%	52%	57%	22%	20%	0.3%	13%	31%	38%	18%
Other	4,979	1,192	22%	39%	61%	56%	21%	23%	0.3%	5%	34%	46%	16%
DUI	1,460	703	46%	36%	64%	82%	10%	7%	1.5%	3%	42%	37%	19%
Drugs	1,429	628	44%	36%	64%	57%	21%	20%	1.7%	2%	37%	48%	12%
Theft	14,140	397	3%	38%	62%	63%	15%	21%	0.6%	3%	38%	40%	18%
Disturbance	1,808	272	15%	40%	60%	58%	21%	19%	1.3%	6%	29%	41%	24%
Burglary	2,516	122	5%	45%	55%	57%	22%	21%	1.1%	11%	34%	36%	20%
Vandalism	4,092	108	3%	37%	63%	59%	16%	24%	1.2%	9%	34%	37%	19%
Domestic	8,678	93	1%	51%	49%	50%	22%	26%	1.7%	41%	23%	28%	9%
Weapon	293	82	28%	35%	65%	57%	29%	13%	1.4%	4%	37%	38%	22%
Robbery Kidnap	407	54	14%	42%	58%	48%	30%	22%	0%	15%	30%	37%	19%
Fraud	3,057	39	1%	45%	55%	63%	11%	26%	0%	5%	38%	41%	15%
Sex Crime	2,179	36	2%	39%	61%	58%	15%	23%	3.8%	17%	22%	42%	19%
Auto Theft	1,202	32	3%	43%	57%	63%	15%	22%	0%	3%	34%	44%	19%
Liquor Laws	620	22	3%	43%	57%	79%	16%	5%	0%	5%	50%	32%	14%
Homicide	27	3	5%	50%	50%	100%	0%	0%	0%	33%	0%	33%	33%
Violent Crime	11,690	1,672	14%	47%	53%	57%	23%	20%	0.4%	13%	31%	38%	18%
Property Crime	25,007	698	3%	40%	60%	62%	16%	22%	0.7%	6%	37%	39%	18%
Other Crime	19,267	2,992	18%	38%	62%	62%	19%	18%	1.1%	5%	36%	43%	16%
Total	55,964	5,362	10%	41%	59%	61%	20%	19%	0.8%	7%	34%	41%	17%
All Reported Crimes				38%	62%	61%	21%	18%	0.5%	8%	37%	45%	10%

Table 25: Duluth Arrests – Risk Ratios by Arrestee Demographics

		Risk Ratios = % Arrests / % Reported Crimes									
		Arrestee Sex		Arrestee Race				Arrestee Age			
FBI Crime Category	Total Arrests	Female	Male	White	Black	Nat Am	Asian	0 - 17	18 - 29	30 - 49	50+
Assault	1,579	1.3	0.8	0.9	1.1	1.1	0.7	1.5	0.8	0.8	1.8
Other	1,192	1.0	1.0	0.9	1.0	1.3	0.6	0.5	0.9	1.0	1.6
DUI	703	0.9	1.0	1.4	0.5	0.4	3.1	0.3	1.1	0.8	1.9
Drugs	628	0.9	1.0	0.9	1.0	1.1	3.5	0.3	1.0	1.1	1.2
Theft	397	1.0	1.0	1.0	0.7	1.2	1.2	0.4	1.0	0.9	1.9
Disturbance	272	1.1	1.0	1.0	1.0	1.1	2.7	0.7	0.8	0.9	2.4
Burglary	122	1.2	0.9	0.9	1.0	1.2	2.2	1.3	0.9	0.8	2.0
Vandalism	108	1.0	1.0	1.0	0.8	1.3	2.4	1.1	0.9	0.8	2.0
Domestic	93	1.4	0.8	0.8	1.1	1.5	3.4	4.9	0.6	0.6	0.9
Weapon	82	0.9	1.0	0.9	1.4	0.7	2.8	0.4	1.0	0.8	2.2
Robbery Kidnap	54	1.1	0.9	0.8	1.4	1.2	0.0	1.8	0.8	0.8	1.9
Fraud	39	1.2	0.9	1.0	0.5	1.5	0.0	0.6	1.0	0.9	1.6
Sex Crime	36	1.0	1.0	1.0	0.7	1.3	7.7	2.0	0.6	0.9	2.0
Auto Theft	32	1.1	0.9	1.0	0.7	1.2	0.0	0.4	0.9	1.0	1.9
Liquor Laws	22	1.1	0.9	1.3	0.7	0.3	0.0	0.5	1.4	0.7	1.4
Homicide	3	1.3	0.8	1.7	0.0	0.0	0.0	4.0	0.0	0.7	3.4
Violent Crime	1,672	1.2	0.9	0.9	1.1	1.1	0.8	1.6	0.8	0.8	1.8
Property Crime	698	1.0	1.0	1.0	0.8	1.2	1.4	0.7	1.0	0.9	1.9
Other Crime	2,992	1.0	1.0	1.0	0.9	1.0	2.1	0.6	1.0	1.0	1.7
Total Arrests	5,362	1.1	1.0	1.0	0.9	1.1	1.6	0.9	0.9	0.9	1.7
All Reported Crimes		38%	62%	61%	21%	18%	0.5%	8%	37%	45%	10%

When compared with reported crimes, Females were more likely to be arrested than expected for domestic incidents, assaults, and homicides. Male arrestees were proportional to reported Male suspects in every type of crime category. White subjects were overrepresented in arrests for Homicide, DUI and liquor laws, while Black subjects were overrepresented in weapon offenses and robbery/kidnapping. Native American arrestees were more frequently arrested for fraud, domestic incidents, sex crimes, and vandalism than expected based on their proportion of reported crime suspects. Asian arrestees had the greatest disparities of any racial group. Asian subjects were nearly eight times more likely to be arrested for a sex crime and were more than three times more likely to be arrested for drugs, domestic and DUI. Juveniles are overrepresented in homicides, domestic incidents, sex crimes, robberies and assaults while those over 50 are over represented in all crime categories except for domestic incidents and drugs.

Table 26: Duluth Arrests – Odds Ratios by Arrestee Demographics

FBI Crime Category	Total Arrests	Odds Ratios					
		Arrestee Sex		Arrestee Race			
		Female	Male	White	Black	Nat Am	Asian
Assault	1,579	1	0.7	1	1.1	1.2	0.7
Other	1,192	1	1.0	1	1.1	1.4	0.6
DUI	703	1	1.1	1	0.4	0.3	2.3
Drugs	628	1	1.1	1	1.1	1.2	3.7
Theft	397	1	1.0	1	0.7	1.1	1.1
Disturbance	272	1	0.9	1	1.0	1.1	2.8
Burglary	122	1	0.7	1	1.1	1.2	2.3
Vandalism	108	1	1.1	1	0.8	1.4	2.4
Domestic	93	1	0.6	1	1.3	1.8	4.2
Weapon	82	1	1.1	1	1.5	0.7	3.0
Robbery Kidnap	54	1	0.8	1	1.8	1.6	0.0
Fraud	39	1	0.7	1	0.5	1.4	0.0
Sex Crime	36	1	1.0	1	0.8	1.4	8.1
Auto Theft	32	1	0.8	1	0.7	1.2	0.0
Liquor Laws	22	1	0.8	1	0.6	0.2	0.0
Homicide	3	1	0.6	1	0.0	0.0	0.0
Violent Crime	1,672	1	0.7	1	1.1	1.2	0.9
Property Crime	698	1	0.9	1	0.7	1.2	1.4
Other Crime	2,992	1	1.0	1	0.9	1.0	2.1
Total	5,362	1	0.9	1	0.9	1.1	1.6
All Reported Crimes		38%	62%	61%	21%	18%	0.5%

When arrests are compared to reported crimes, Males and Females are equally likely to be arrested. Black and Native American subjects are just as likely to be arrested as White subjects for all crimes. Black subjects are 80% more likely than White subjects to be arrested for robbery/kidnapping and 50% more likely to be arrested for a weapon offense. Black subjects are 60% less likely than White subjects to be arrested for DUI and 50% less likely to be arrested for

fraud. Native American subjects are 30% less likely than White subjects to be arrested for a weapon offense and 70% less likely to be arrested for DUI and 80% less likely to be arrested for a liquor violation. Native American subjects were 60% more likely than White subjects to be arrested for robbery/kidnapping, and 40% more likely to be arrested for sex crimes, fraud, and vandalism. Asian subjects and White subjects were equally likely to be arrested for a violent crime, but Asian subjects were 40% more likely to be arrested for a property crime and twice as likely to be arrested for other crimes. The largest disparity between Asian and White arrestees was for sex crimes where Asian subjects were eight times more likely to be arrested.

Duluth Victims and Offenders – Risk Ratio Analysis

Risk ratios were calculated for each variable:

- Percentage of victims compared to the percentage of the population
- Percentage of reported offenders compared to the percentage of the population
- Percentage of arrests compared to the percentage of reported offenders

Odds ratios were calculated for sex (comparing the risk ratio of Males with Females) and for race (comparing the risk ratios of non-White races with White subjects).

Table 27: Risk Ratio & Odds Ratio – Duluth Victims, Reported Crimes and Arrests

		Risk Ratios		
		Victims	Offenders	Arrests
Benchmark		Population	Population	Offenders
Sex	Female	1.0	0.7	0.9
	Male	1.0	1.3	1.1
Race	White	0.8	0.6	1.1
	Black	5	9	0.8
	Nat Amer	5	10	0.9
	Asian	0.3	0.3	1.4
Age	0-17	1.3	0.5	0.9
	18-29	1.0	1.4	1.1
	30-39	1.4	2.3	0.8
	40-49	1.2	1.3	0.9
	50+	0.6	0.3	1.3

		Odds Ratios		
		Victims	Offenders	Arrests
Benchmark		Population	Population	Offenders
Sex	Female	1	1	1
	Male	1.0	1.7	1.3
Race	White	1	1	1
	Black	6	14	0.7
	Nat Amer	6	15	0.8
	Asian	0.4	0.5	1.2

Males and Females comprise about the same proportion of victims of crime as they do in the population. Males were 30% more likely to be reported as a crime suspect, and Females were 30% less likely to be a crime suspect than we would expect based on their proportion of the

population. Males were 70% more likely to be a reported crime suspect than Females were. When arrests were compared with reported crimes, Males were 30% more likely than Females to be arrested.

Asian subjects were 70% less likely to report being victims of crime than would be expected based on their proportion of the population. Black and Native American subjects were five times more likely to report being the victim of a crime than we would expect based upon their share of the population of Duluth. Black and Native American subjects were more than nine times more likely to be identified as a suspect in a reported crime than we would expect based on their percentage of the population. Asian subjects were 70% less likely to be identified as a suspect in a reported crime and White subjects were 40% less likely to be a reported crime suspect. Most observed racial disparities were reduced when arrests were compared with reported crimes. Only Asian subjects were significantly overrepresented in arrests and were 40% more likely to be arrested than expected based on their percentage of suspects in reported crimes.

Duluth residents between the ages of 30 and 39 were about 40% more likely to report being the victim of a crime. Individuals over 50 were 40% less likely to report being the victim of a crime. When reported crime suspects are compared with the population juveniles and those over 50 are more than 50% less likely to be a reported crime suspect. Persons between 30 and 39 were more than twice as likely to be identified as a crime suspect. When arrests were compared with reported crimes the only significant disparity by age was for those over 50 who were 30% more likely to be arrested.

Males were 70% more likely than Females to be identified in a reported crime. Black and Native American subjects were more than six times as likely as White subjects to be the victim of a crime and were more than fourteen times more likely to be reported as a crime suspect. Asian subjects were 50% less likely than White subjects to be a crime victim or a reported crime suspect.

Police actions do not determine who becomes a crime victim or who is identified as a suspect in reported crimes. Therefore, the significant sex, race and age disparities observed in victimization rates and reported crime rates, are not the product of racial bias or racial profiling by the police.

When the demographics of arrestees are compared with the demographics of the suspects in reported crimes there are only minor disparities observed for age, race, and sex groups, except for Asian subjects and those over 50. Asian subjects are 40% more likely to be arrested than we would expect based on their proportion as suspects in reported crimes and those over 50 are 30% more likely to be arrested. Since the decision to make an arrest can be discretionary,[83] it is possible that at least some of this disparity for Asian subjects and the elderly could be due to bias and/or profiling. This disparity could also be caused by other factors such as the types of crimes committed and the likelihood of these individuals coming into contact with the police. Different crime types will have different arrest rates. Crimes against persons and social disorder crimes tend to have the highest arrest rates and property crimes have the lowest arrest rates.

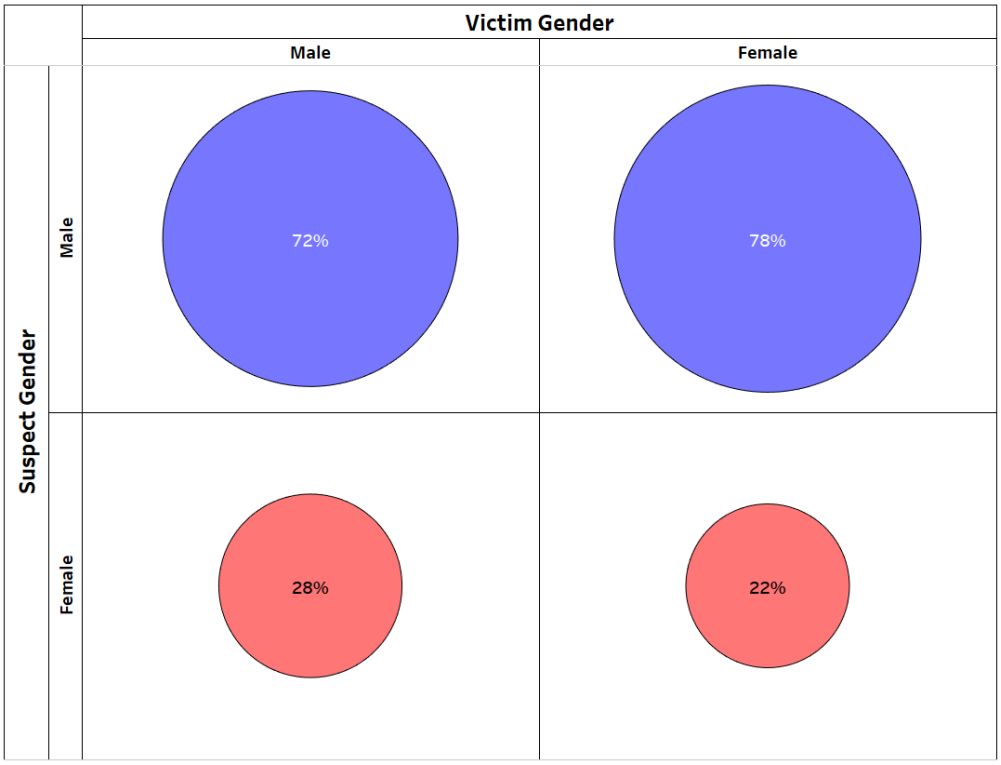
[83] Some criminal incidents like domestic violence require officers to make an arrest when there is probable cause, and the suspect has been identified.

Reports of Crime by Victims

There are demographic disparities in victimization rates just as there are disparities in reported crime suspects and arrestees. Therefore, victim reporting behavior can also impact observed demographic disparities in policing actions. If some groups are more or less likely to report being the victim of a crime or if certain groups are more likely to be exposed to criminal behavior, this will impact the disparities in law enforcement data.

Male and Female victims are both more likely to report that a Male was the perpetrator (Males were about three-quarters of all reported suspects).

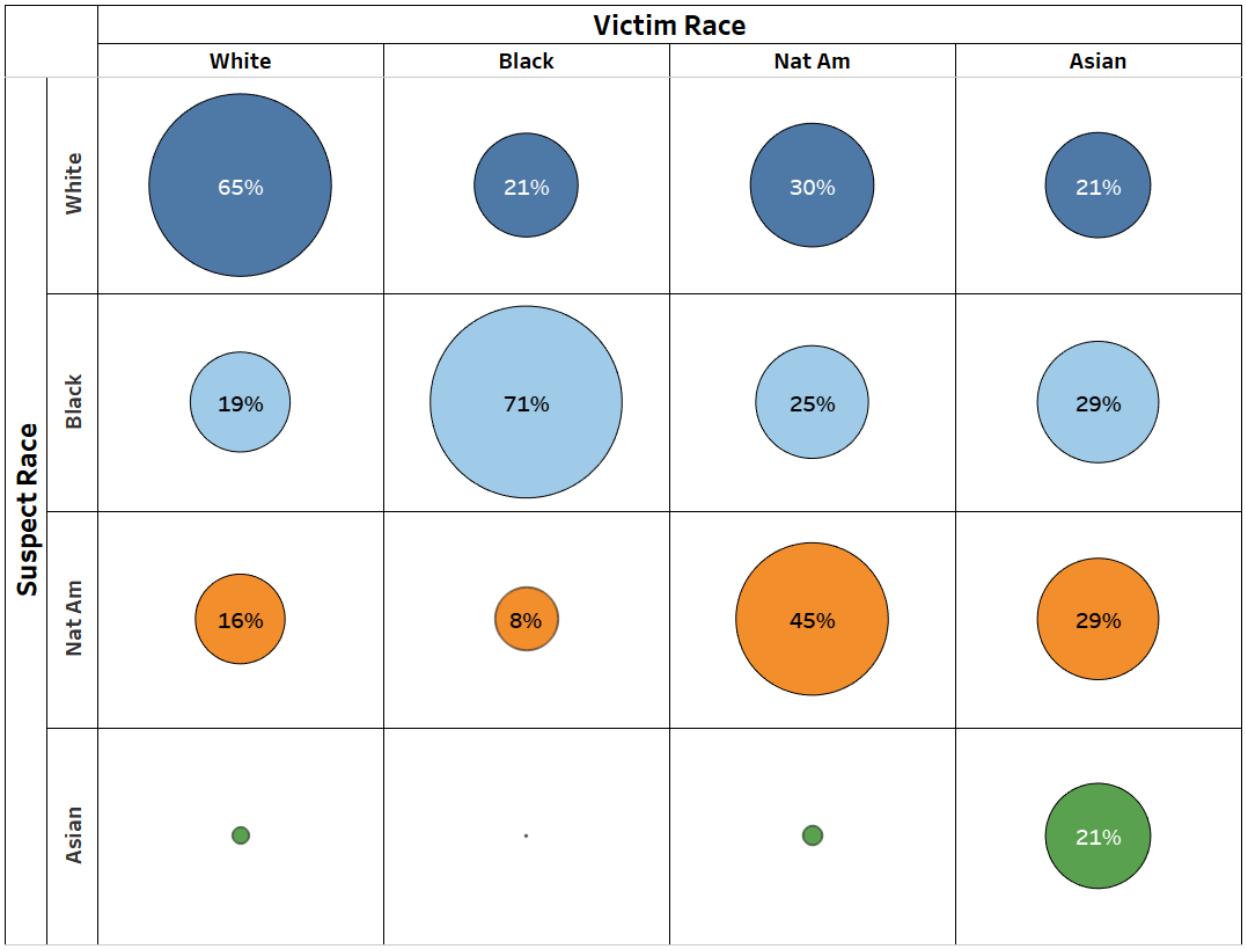
Figure 6: Gender of Reported Crime Suspects and Victim's Gender – Duluth PD



More than two-thirds of White and Black victims reported that the suspect was of the same race. Almost half Native American victims reported that the suspect was also Native American. Only one in five Asian victims reported that the suspect was Asian. White, Black and Native American victims reported that the suspect was Asian less than 1% of the time.

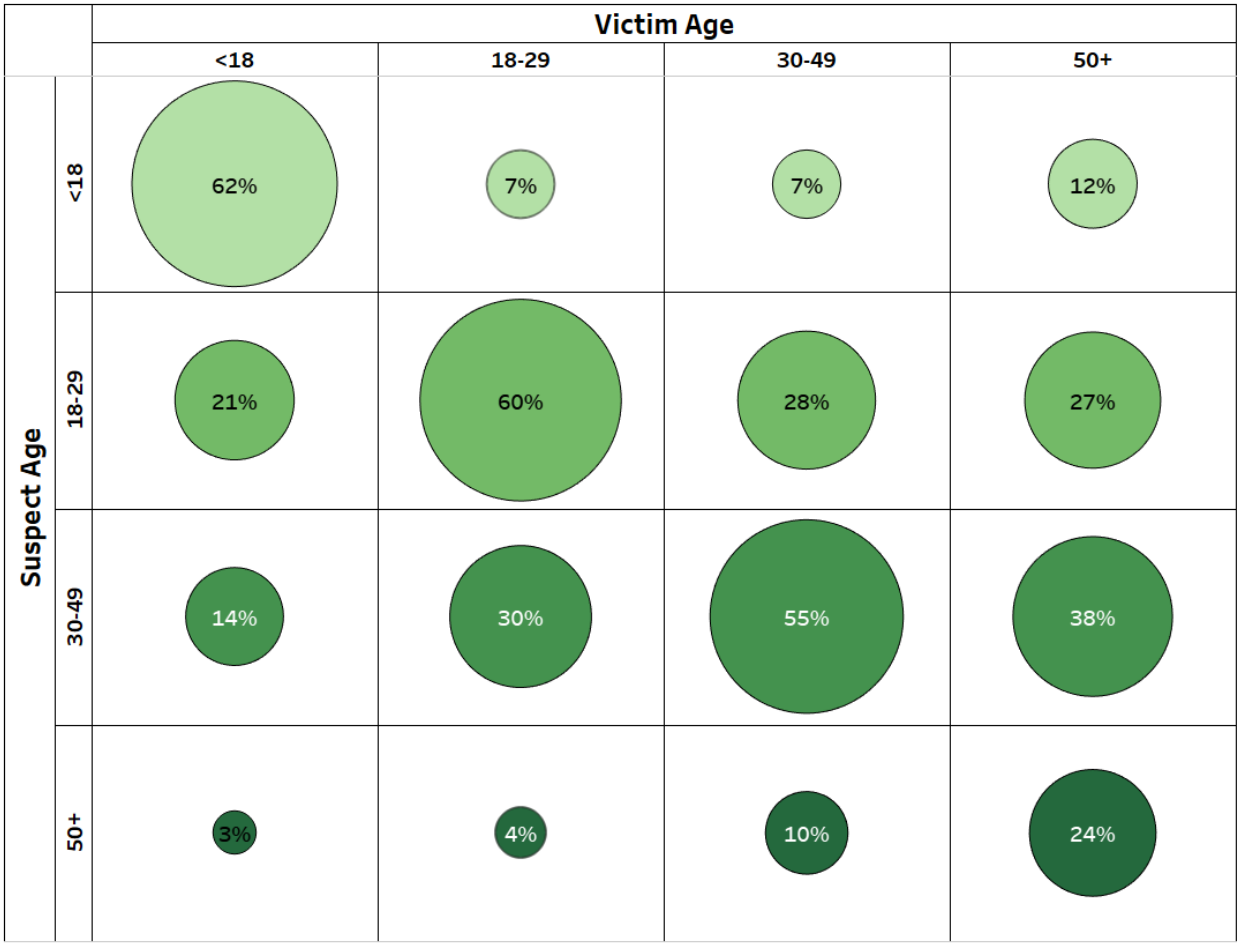
White on White reported crimes, Black on Black reported crimes, and Native American on Native American reported crimes will be a significant factor in racial disparities that are observed in policing actions for these racial groups. Put another way, most of the crimes involving Black suspects will involve Black victims.

Figure 7: Race of Reported Crime Suspects and Victim's Race – Duluth PD



A majority of victims under 50 report that the suspect is in the same age range. However, three out of four victims over 50 report that the suspect was younger than 50. Crimes that involve victims under 50 are usually perpetrated by suspects who are of a similar age as the victim.

Figure 8: Age of Reported Crime Suspects and Victim's Age – Duluth PD



When the race of crime victims is compared to the race of reported crime suspects, significant disparities are observed. Compared to the racial makeup of the population, White victims are 30% less likely to be victimized by suspects of the same race. Black victims are thirty times more likely to report that the suspect was Black than would be expected based on the size of the Black population. Native American victims are twenty-four times more likely to report that the suspect was Native American and Asian crime victims are thirteen times more likely to report that the suspect was also Asian.

White victims less likely to report being victimized by Asian suspects but were eight times more likely to report that the suspect was Black or Native American than would be expected based on the population.

The overall racial disparities in reported crime suspects compared to the city population, appear to be driven by the reporting of crime victims who share the same race as the suspect. Racial bias and prejudice could still play a role in these disparities since White victims report the majority of crimes and they report Black and Native American suspects at a rate more than eight times higher than the portion of the Black and Native American population.

Table 28: Risk Ratios – Race of Victim and Suspect – Duluth PD

Victim Race	Suspect Race	% of All Suspects in Victim Group	% of Suspect Race in Population	Risk Ratio
White	White	64.5%	94.1%	**0.7**
Black	Black	71.4%	2.4%	**30**
Nat Amer	Nat Amer	45.0%	1.9%	**24**
Asian	Asian	21.4%	1.7%	**13**
White	Black	19.3%	2.4%	**8**
White	Nat Amer	15.6%	1.9%	**8**
White	Asian	0.5%	1.7%	**0.3**

Crime victims are more likely to report suspects of a similar age. Juvenile victims were more than three times more likely to report a juvenile suspect than expected based on their share of the population. Victims between 18 and 49 were more than twice as likely to report a suspect in the same age range. Victims over age 50 were 30% less likely to report a suspect in the same age range. This indicates that older victims are more likely to be victimized by younger suspects.

Table 29: Risk Ratios for Ages of Crime Victims and Reported Suspects in Duluth

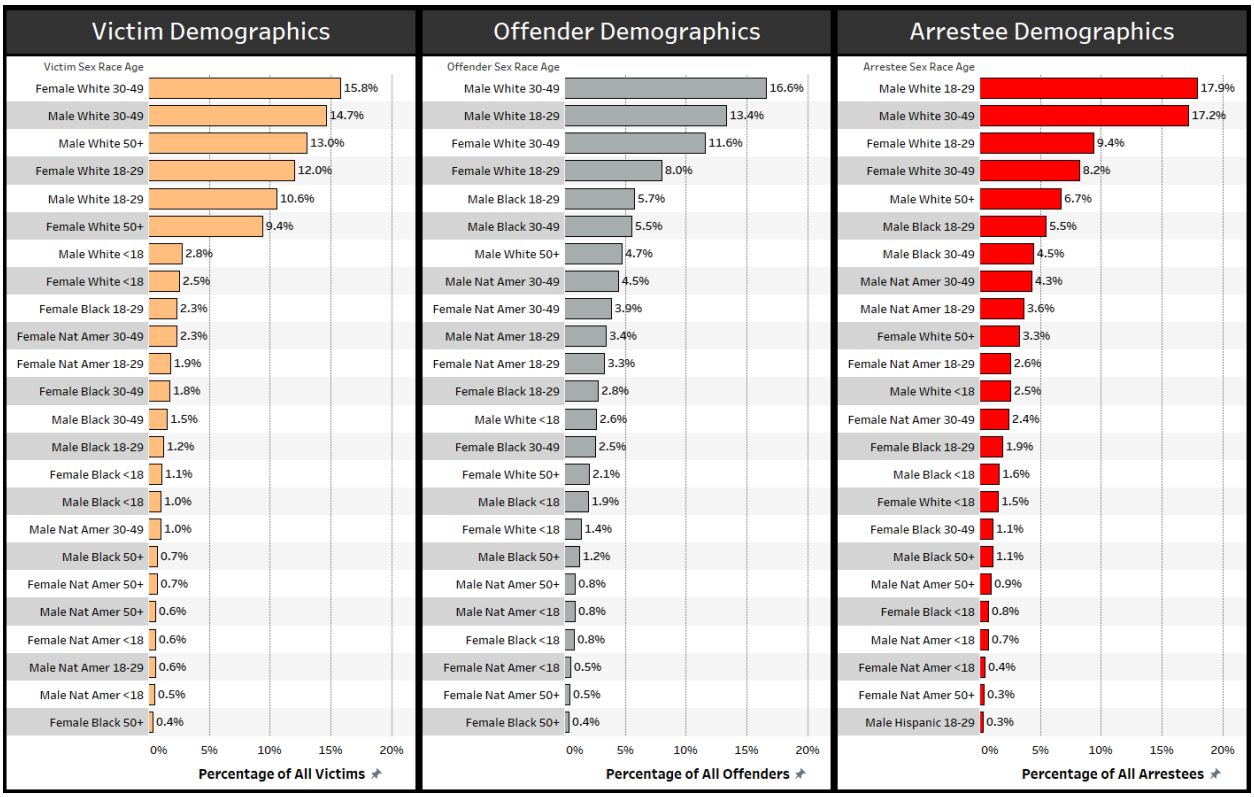
Victim Age	Suspect Age	% of All Suspects in Victim Group	% of Suspect Race in Population	Risk Ratio
0 - 17	0 - 17	62.2%	17.2%	**3.6**
18 - 29	18 - 29	59.8%	25.8%	**2.3**
30 - 49	30 - 49	55.1%	24.1%	**2.3**
50+	50+	23.6%	32.9%	**0.7**

Victim and Offender Demographic Characteristics

In Duluth, White Male adults comprise 38% of crime victims and White Female adults make up 37% of all victims.[84] White Male adults comprise 35% of all reported crime suspects and White Female adults make up 22% of suspects. White Male adults comprise 42% of all arrestees and White Female adults make up 21% of arrestees. Black Male adults make up 3.4% of victims, 12% of reported offenders and 11% of arrestees.

The social dynamics of victimization rates and offending rates are complex and it is beyond the scope of this study to explore all the possible reasons why these disparities may exist. This information was provided to highlight the difficulties in using quantitative law enforcement data to determine how much officer bias may contribute to these observed disparities.

Figure 9: Demographics of Crime Victims and Arrestees in Duluth



[84] These percentages only include data where the individuals sex, race and age are all known.

Law Enforcement Actions Taken After a Stop

Officer Discretion – Risk Ratio Analysis

To understand the underlying causes of racial disparities in policing, one must first examine how officers exercise their discretion when carrying out their law enforcement duties. During routine patrols, most officers will be working alone. During most of the officer's encounters, he/she will have a great deal of discretion in determining what type of law enforcement action to take. If an officer pulls over a vehicle for a minor traffic infraction, the officer may decide to give the driver a ticket or let them go with only a warning. If the officer discovers the driver has a suspended license (a misdemeanor crime) the officer has the discretion to write a citation or arrest the driver and book him into jail. As the seriousness level of the crime being investigated increases, the less discretion the officer will have.

If an officer responds to a domestic violence assault and locates the suspect, the officer may be more inclined to arrest the assailant and book him into jail for the victim's safety. If, on the other hand, the officer responds to a fight outside of a bar between two mutual combatants, the officer may decide not to arrest either subject. Officer discretion also comes into play with use of force incidents. If an officer tries to stop a robbery suspect and the suspect flees, the officer will normally need to use some level of force to bring the suspect into custody unless the suspect stops and surrenders. For public safety reasons, the officer could not allow a suspect involved in a violent felony to just run away. On the other hand, if an officer responds to a shoplifting call and finds the suspect in the store and the suspect refuses to be handcuffed, the officer may have additional de-escalation and compliance options that could be employed before force needs to be used.

To determine the level of discretion that officers have in taking law enforcement action after a stop has been made each type of action was grouped into one of five categories based on:

1. The type of offense involved
    a. Violent
    b. Weapon
    c. Warrant
    d. Property
    e. Disturbance
    f. Traffic
    g. Drugs
    h. Obstructing
    i. Juvenile
2. The level of offense involved
    a. Felony
    b. Misdemeanor
3. The action taken by the officer
    a. Arrest
    b. Other

Using these factors thirty-three scenarios were created based on the type of offense, the level of seriousness, action taken, and custody status. These scenarios were ranked from 1 (most serious and lowest discretion) to 33 (least serious and highest discretion). These thirty-three levels of seriousness were grouped into five levels of officer discretion:

1. Very Low Discretion
2. Low Discretion
3. Medium Discretion
4. High Discretion
5. Very High Discretion

Table 30: Officer Discretionary Classification by Crime Type, Crime Severity and Action Taken

Incident Serious Level	Officer Discretion Level	Crime Type Crime Severity Action Taken	Subjects	% of Total
1	Very Low	Violent - Felony - Arrest	397	**1.5%**
2	Very Low	Violent - Misd - Arrest	539	**2.1%**
3	Very Low	Weapon - Felony - Arrest	23	**0.1%**
4	Very Low	Weapon - Misd - Arrest	13	**0.1%**
5	Very Low	Warrant - Arrest	3,227	**12.6%**
6	Low	Property - Felony - Arrest	119	**0.5%**
7	Low	Property - Misd - Arrest	417	**1.6%**
8	Low	Disturbance - Felony - Arrest	43	**0.2%**
9	Low	Disturbance - Misd - Arrest	178	**0.7%**
10	Low	Traffic - Felony - Arrest	16	**0.1%**
11	Low	Traffic - Misd - Arrest	750	**2.9%**
12	Low	Drugs - Felony - Arrest	357	**1.4%**
13	Low	Drug - Misd - Arrest	77	**0.3%**
14	Low	Obstructing - Felony - Arrest	16	**0.1%**
15	Low	Obstructing - Misd - Arrest	365	**1.4%**
16	Low	Juvenile - Arrest	25	**0.1%**
17	Medium	Violent - Felony - Other	631	**2.5%**
18	Medium	Weapon - Felony - Other	27	**0.1%**
19	Medium	Property - Felony - Other	433	**1.7%**
20	Medium	Disturbance - Felony - Other	45	**0.2%**
21	Medium	Traffic - Felony - Other	13	**0.1%**
22	Medium	Drugs - Felony - Other	171	**0.7%**
23	Medium	Obstructing - Felony - Other	31	**0.1%**
24	Medium	Violent - Misd - Other	1,466	**5.7%**
25	Medium	Weapon - Misd - Other	22	**0.1%**
26	High	Property - Misd - Other	3,721	**14.5%**
27	High	Warrant - Other	379	**1.5%**
28	High	Disturbance - Misd - Other	924	**3.6%**
29	High	Drugs - Misd - Other	652	**2.5%**
30	High	Obstructing - Misd - Other	273	**1.1%**
31	Very High	Juvenile - Other	613	**2.4%**
32	Very High	Traffic - Misd - Other	2,676	**10.4%**
33	Very High	Traffic - Misd - Ticket	7,027	**27.4%**

Total	25,666	100%

Table 31: Demographics of Subjects Contacted at Each Discretionary Level

			Officer Discretion Level				
			Very Low	Low	Medium	High	Very High
		Incidents	4,199	2,363	2,839	5,949	10,316
		All Incidents	Arrrests for Violent & Weapon Crimes & Warrants	Arrests for Non-Violent Crimes	Other Actions for Felonies & Violent Misdemeanors	Other Actions for Non-Violent Misdemeanors	Other Actions for Traffic Offenses
Sex	Female	32.6%	25.7%	24.7%	24.7%	32.2%	39.7%
	Male	67.4%	74.3%	75.3%	75.3%	67.8%	60.3%
Race	White	67.4%	54.5%	60.6%	53.9%	60.2%	82.7%
	Black	16.6%	18.6%	19.3%	28.0%	19.0%	10.4%
	Nat Amer	15.3%	26.4%	19.3%	17.4%	20.2%	6.2%
	Asian	0.7%	0.5%	0.8%	0.7%	0.6%	0.8%
Age	0-17	7.6%	5.0%	2.2%	16.3%	11.4%	5.4%
	18-29	41.5%	38.9%	40.5%	36.6%	39.1%	45.6%
	30-39	25.4%	31.7%	30.0%	27.5%	23.7%	22.1%
	40-49	12.7%	14.1%	15.2%	11.0%	14.9%	10.8%
	50+	12.8%	10.4%	12.2%	8.6%	11.0%	16.1%

Risk ratios were calculated based on the demographic percentages of each discretionary level divided by the demographic percentages of all incidents.

Table 32: Risk Ratios of Subjects Contacted at Each Discretionary Level

			Officer Discretion Level				
			Very Low	Low	Medium	High	Very High
		Incidents	4,199	2,363	2,839	5,949	10,316
		All Incidents	Arrrests for Violent & Weapon Crimes & Warrants	Arrests for Non-Violent Crimes	Other Actions for Felonies & Violent Misdemeanors	Other Actions for Non-Violent Misdemeanors	Other Actions for Traffic Offenses
Sex	Female	32.6%	0.8	0.8	0.8	1.0	1.2
	Male	67.4%	1.1	1.1	1.1	1.0	0.9
Race	White	67.4%	0.8	0.9	0.8	0.9	1.2
	Black	16.6%	1.1	1.2	1.7	1.1	0.6
	Nat Amer	15.3%	1.7	1.3	1.1	1.3	0.4
	Asian	0.7%	0.8	1.1	1.1	0.9	1.1
Age	0-17	7.6%	0.7	0.3	2.1	1.5	0.7
	18-29	41.5%	0.9	1.0	0.9	0.9	1.1
	30-39	25.4%	1.2	1.2	1.1	0.9	0.9
	40-49	12.7%	1.1	1.2	0.9	1.2	0.9
	50+	12.8%	0.8	1.0	0.7	0.9	1.3

Table 33: Disparity Matrix of Subjects Contacted at Each Discretionary Level – Duluth PD CAD Data

			Officer Discretion Level				
			Very Low	Low	Medium	High	Very High
		Incidents	4,199	2,363	2,839	5,949	10,316
		All Incidents	Arrrests for Violent & Weapon Crimes & Warrants	Arrests for Non-Violent Crimes	Other Actions for Felonies & Violent Misdemeanors	Other Actions for Non-Violent Misdemeanors	Other Actions for Traffic Offenses
Sex	Female	51.3%	0	0	0	0	0
	Male	48.7%	0	0	0	0	0
Race	White	94.1%	0	0	0	0	0
	Black	2.4%	0	0	++	0	-
	Nat Amer	1.9%	++	+	0	+	-
	Asian	1.7%	0	0	0	0	0
Age	0-17	17.2%	-	-	++	++	-
	18-29	25.8%	0	0	0	0	0
	30-39	13.4%	0	0	0	0	0
	40-49	10.8%	0	0	0	0	0
	50+	32.9%	0	0	-	0	+

Symbol	Disparity	Risk Ratio
++	Positive	> +50%
+	Positive	+25% to +50%
0	None	-25% to +25%
-	Negative	-25% to -100%

There were no significant disparities for Male or Female subjects at any Officer Discretion Level. White and Asian subjects and subjects between 18 and 49 also did not have any significant disparities at any level of officer discretion.

Black subjects were 70% more likely to be involved in Medium Discretion incidents where officers were investigating a non-violent felony or a violent misdemeanor, but no arrest was made. Black subjects were 40% less likely to be involved in incidents with the highest level of officer discretion. Native American subjects were 70% more likely to be involved in incidents with the lowest levels

of officer discretion (arrests for violent crimes, weapon offenses and warrants), but were 60% less likely to be involved in very high discretion incidents.

Juveniles were overrepresented in medium and high discretion incidents but were underrepresented at all other discretionary levels. Subjects over 50 were underrepresented in medium discretion incidents but overrepresented in incidents where officer had very high levels of discretion.

Police Bias - Risk Assessment

After assessing the demographic risk ratios for each discretionary level, the next step is to examine how the disparities observed at different discretionary levels translate into the risk of police bias.

Figure 10: Police Bias Risk Matrix

		Racial Disparity		
		Positive	None	Negative
Officer Discretion	High	High Risk of Bias	Medium Risk of Bias	Low Risk of Bias
	Medium	High Risk of Bias	Medium Risk of Bias	Low Risk of Bias
	Low	Medium Risk of Bias	Low Risk of Bias	Low Risk of Bias

The higher the level of officer discretion the greater the chance that an officer's biases and prejudices may play a role in law enforcement decisions. If high discretion incidents are combined with positive disparities, there is an elevated risk that officer bias may be contributing to these disparities. By contrast, low discretion incidents have a lower risk of officer bias

influencing law enforcement actions. If these low discretion incidents are combined with negative disparities, there is a minimal risk that officer bias is impacting the observed disparities.

These risk scores apply to systemic officer bias only. These risk scores do not consider individual acts of officer bias that would not impact the overall frequency scores. What we can conclude from this analysis is that it is unlikely that Duluth PD officers are engaged in a systematic effort to discriminate against any particular demographic group when making decisions on the type of law enforcement actions to take. If systemic bias were occurring, we would expect those biased behaviors to be reflected as disparities in higher discretion actions.

By applying the Police Bias Risk Matrix to the Disparity Matrix table, we can calculate the risk that officer bias is playing a role in law enforcement decision making at each discretionary level.

Table 34: Demographics of Police Bias Risk Levels for DPD

			Officer Discretion Level				
			Very Low	Low	Medium	High	Very High
		Incidents	4,199	2,363	2,839	5,949	10,316
		All Incidents	Arrrests for Violent & Weapon Crimes & Warrants	Arrests for Non-Violent Crimes	Other Actions for Felonies & Violent Misdemeanors	Other Actions for Non-Violent Misdemeanors	Other Actions for Traffic Offenses
Sex	Female	51.3%	Low	Low	Medium	Medium	Medium
	Male	48.7%	Low	Low	Medium	Medium	Medium
Race	White	94.1%	Low	Low	Medium	Medium	Medium
	Black	2.4%	Low	Low	High	Medium	Low
	Nat Amer	1.9%	Medium	Medium	Medium	High	Low
	Asian	1.7%	Low	Low	Medium	Medium	Medium
Age	0-17	17.2%	Low	Low	High	High	Low
	18-29	25.8%	Low	Low	Medium	Medium	Medium
	30-39	13.4%	Low	Low	Medium	Medium	Medium
	40-49	10.8%	Low	Low	Medium	Medium	Medium
	50+	32.9%	Low	Low	Low	Medium	High

Using this risk analysis framework, the only subject demographics that are associated with a substantial risk of officer bias are Black, Native American and Juvenile subjects. However, none of these groups have elevated risk scores for the highest level of officer discretion. If these high-risk scores were due to officer bias or profiling, we would expect to see elevated risk scores in incidents involving very high levels of officer discretion.

Police Uses of Force and Arrests

Police uses of force are causally linked with arrests. Almost all use of force incidents are associated with an attempt by an officer to bring an individual into custody. If a suspect resists a lawful arrest or detention, then it is usually necessary for the officer to use some type of force to gain control of the suspect. To reduce the need to use force, many agencies have sent their officers through crisis intervention and de-escalation training. These courses help officers identify individuals with mental health issues and provides them with the verbal and interpersonal skills needed to help de-escalate and gain control of problematic situations without having to use force. While there are no comprehensive studies that have linked de-escalation training with a reduction in use of force incidents, it is likely that these programs do provide officers with valuable skills that they can use to resolve conflicts.

While many people view any use of force by police as a negative outcome regardless of how or why the force was used, our data shows that officers cannot do their jobs effectively without using some amount of force in appropriate circumstances. No matter how much de-escalation training an officer receives, there will always be a certain percentage of arrestees who will resist or flee regardless of what the officer says or does. We have collected data on more than 15,000 use of force incidents from more than ninety law enforcement agencies in eight state and on average about 4% of all arrests involve in a use of force.

Some departments have seen dramatic declines in uses of force when consent decrees are imposed or when departments come under intense public scrutiny or when body cameras have been implemented. However, these declines in uses of force are normally associated with a corresponding decline in arrests as officers become less proactive and they are more reluctant to engage in situations involving minor crimes, infractions, or suspicious circumstances.

There is a strong correlation between the total number of uses of force a department has and the total number of arrests their officers make. Similarly, the more proactive and productive

officers are, the more arrests they will make and the more uses of force they will be involved in. Rather than simply measuring the frequency of force, a better metric to assess risk is measuring the use of force rate per one hundred arrests. For example, an officer who makes ten arrests and uses force against four of those suspects (40% use of force rate) is a much higher risk than an officer who makes three hundred arrests and uses force against twelve suspects (4% use of force rate).

Uses of force rates were examined for 115 law enforcement agencies that use the Police Force Analysis System℠ and selected agencies that post their use of force and arrest data online. There was a strong correlation between the annual number of arrests and the annual number of uses of force for law enforcement agencies of all sizes. The Duluth Police Department had a use of force rate of 4.9% which is within the expected range of other agencies.

Figure 11: Scatterplot of Arrests and Uses of Force for 115 Law Enforcement Agencies in the United States

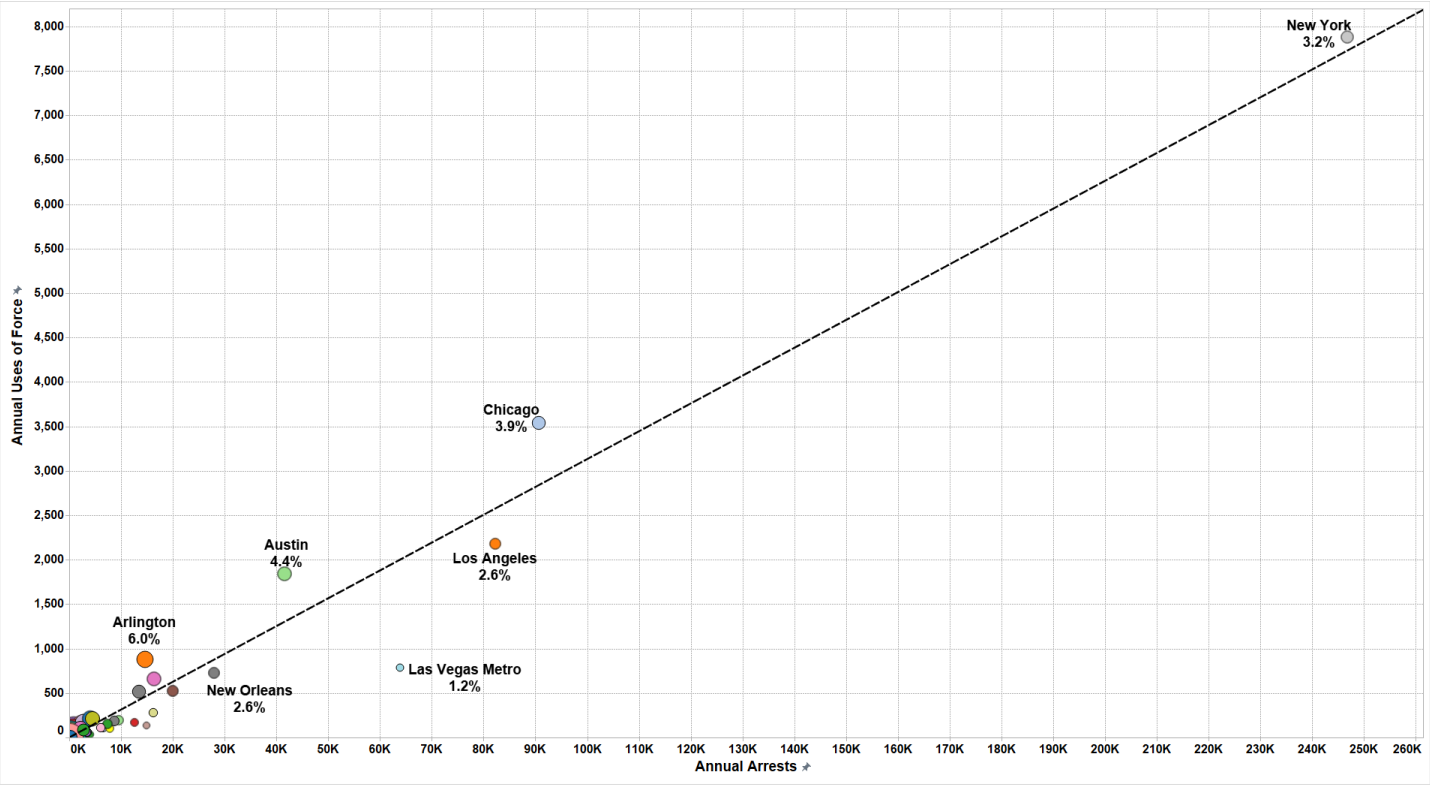
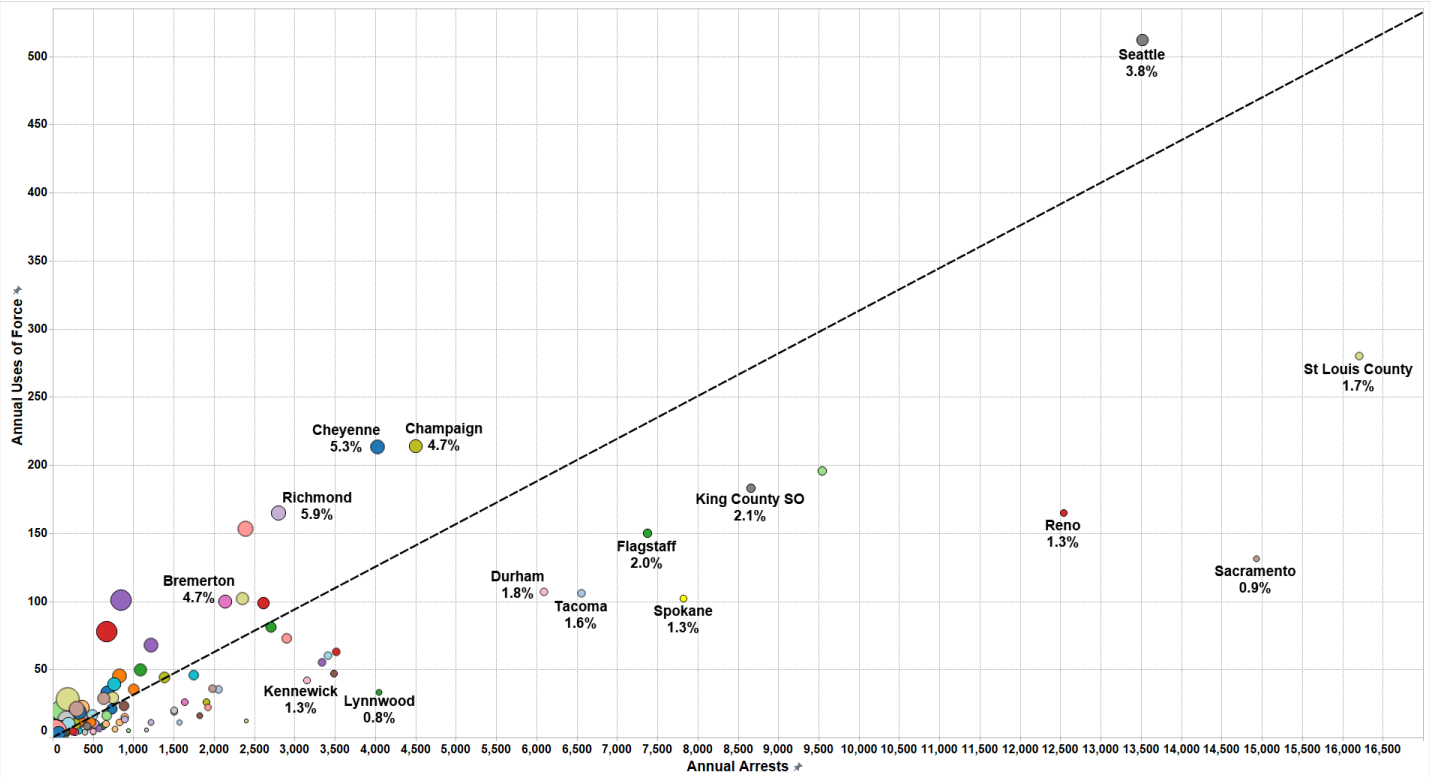


Figure 12: Scatterplot of Arrests and Uses of Force for 115 Law Enforcement Agencies in the United States (Only Smaller Agencies Displayed)



P-value: < 0.0001
Equation: Total UOF = 0.0313088*Total Arrests

Coefficients

Term	Value	StdErr	t-value	p-value
Total Arrests	0.0313088	0.0005593	55.9747	< 0.0001

While census data of the residential population is sometimes used as a benchmark for measuring disparities with uses of force, population does not provide an adequate measure to assess the possible impacts of bias by police officers. There are many factors that could affect the demographic disparities between uses of force and the population that have nothing to do with officer bias such as crime rates, compliance rates, possession of weapons, poverty rates, deployment strategies, etc.

A better benchmark for measuring demographic disparities in police uses of force is arrest data.[85] Almost every use of force incident is associated with an arrest. All things being equal, we would expect to see the same proportion of Subject characteristics for those who are arrested as those who are involved in a use of force incident. If there is any demographic disparity observed between the use of force data and the arrest data, this disparity could be caused by differential Subject behavior (i.e. one Subject group is more or less likely to resist arrest than other groups) or differential officer behavior (i.e. officers are more or less prone to use force against one Subject group than other groups) or a combination of differential behavior from both subjects and officers.

[85] Two recent reports from the University of Texas at San Antonio and the University of Cincinnati used this methodology to examine racial disparities between uses of force and arrests using data from the from the Tulsa Police Department and the Fairfax County Police Department:

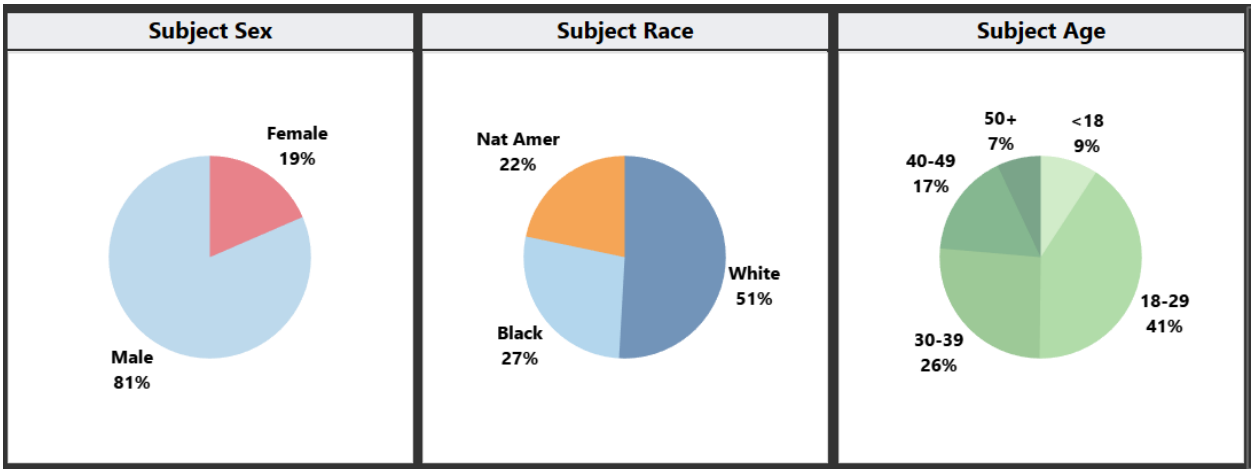
- Tulsa Police Department
- Fairfax County Police Department

Police Use of Force - Subject Demographics

Use of force data from Duluth PD was obtained from the Department's IAPro/BlueTeam records management system. Three years (2018 to 2020) of use of force data was analyzed using the Police Force Analysis System℠. During this three-year period 115 Duluth PD officers used force 526 times against 281 subjects. A use of force incident includes any type of physical force or use of a weapon by officers but does not include incidents where the only force used was the pointing of a firearm or a weapon.

Four out of five use of force incidents involved Male subjects. Fifty-one percent of uses of force incidents involved White subjects while 27% of subjects were Black and 22% were Native American. Less than 10% of use of force incidents involve juveniles and only 7% of force incidents involved a subject older than 50.

Figure 13: Demographics of Duluth PD Use of Force Subjects



Police Uses of Force / Arrests – Risk Ratio Analysis

The following tables provide the sex, race and age composition of all arrestees and subjects who were involved in a use of force incident. These numbers only include arrests and uses of force where the demographics of the subjects were recorded.

Use of force rates were calculated by taking the total number of force incidents during the three-year period and dividing by the total number of arrests. Male subjects had slightly higher use of force rates than Female subjects. During the three-year period, no Asian arrestees were involved in a use of force incident. White and Native American subjects were involved in a use of force incident at the same rate. The use of force rate for Black arrestees was 60% higher than for White arrestees.

Subjects between 18 and 29 were the age group most likely to be involved in a use of force incident (13.7%) while subjects over 50 were the least likely (2.7%).

Table 35: Demographics of Arrests, Uses of Force and Use of Force Rates – Duluth PD – 2018 to 2020

		Arrests	Uses of Force	UOF Rate
Sex	Female	920	39	4.2%
	Male	2,949	156	5.3%
Race	White	2,193	100	4.6%
	Black	749	55	7.3%
	Nat Amer	899	40	4.4%
	Asian	19	0	0.0%
Age	0-17	161	22	13.7%
	18-29	1,484	83	5.6%
	30-39	1,203	47	3.9%
	40-49	579	29	5.0%
	50+	445	12	2.7%
	Total	3,869	195	5.0%

Table 36: Risk Ratios for Demographics of Subjects Involved in Uses of Force and Arrests – Duluth PD – 2018 to 2020

		Arrests	Uses of Force	Risk Ratio	Odds Ratio
Sex	Female	23.8%	20.0%	0.8	1
	Male	76.2%	80.0%	1.0	1.2
Race	White	56.8%	51.3%	0.9	1
	Black	19.4%	28.2%	1.5	1.6
	Nat Amer	23.3%	20.5%	0.9	1.0
	Asian	0.5%	0.0%	0.0	0.0
Age	0-17	4.2%	11.4%	2.7	
	18-29	38.3%	43.0%	1.1	
	30-39	31.1%	24.4%	0.8	
	40-49	15.0%	15.0%	1.0	
	50+	11.5%	6.2%	0.5	

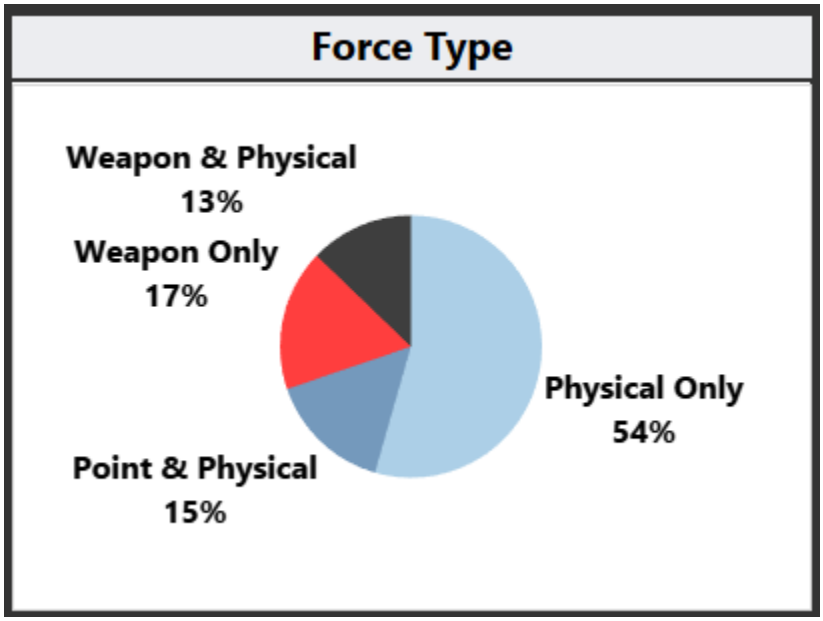
After an arrest, Males were 20% more likely to be involved in a use of force incident than Females were. Use of force rates were highest for Black subjects who were 60% more likely to be involved in a use of force incident during an arrest than White subjects were. Juvenile subjects were nearly three times more likely to be involved in a use of force incident than would be expected based on their proportion of arrestees while those over 50 were 50% less likely to be involved in a use of force incident.

Based on these results, it appears that subject resistance is more likely to be the factor influencing the racial disparities rather than officer bias. Female subjects are less likely to resist arrest than male subjects are and subjects over 50 are less likely to resist arrest than younger subjects are. These same patterns have been seen in other jurisdictions where Police Strategies LLC has worked. Juvenile subjects are the most likely group to resist arrest and be involved in a use of force incident. Juveniles tend to be the group that is most likely to flee from the police. Black subjects appear to be more likely to resist arrest than all other racial groups. This higher resistance level may be due to a lack of trust in the police and a concern about racial profiling and discrimination.

Use of Force Analysis

More than two-thirds of Duluth PD use of force incidents involve the use of physical force only. Seventeen percent of force incidents involve only the use of a weapon. Weapons and physical force are used together in 13% of all force incidents.

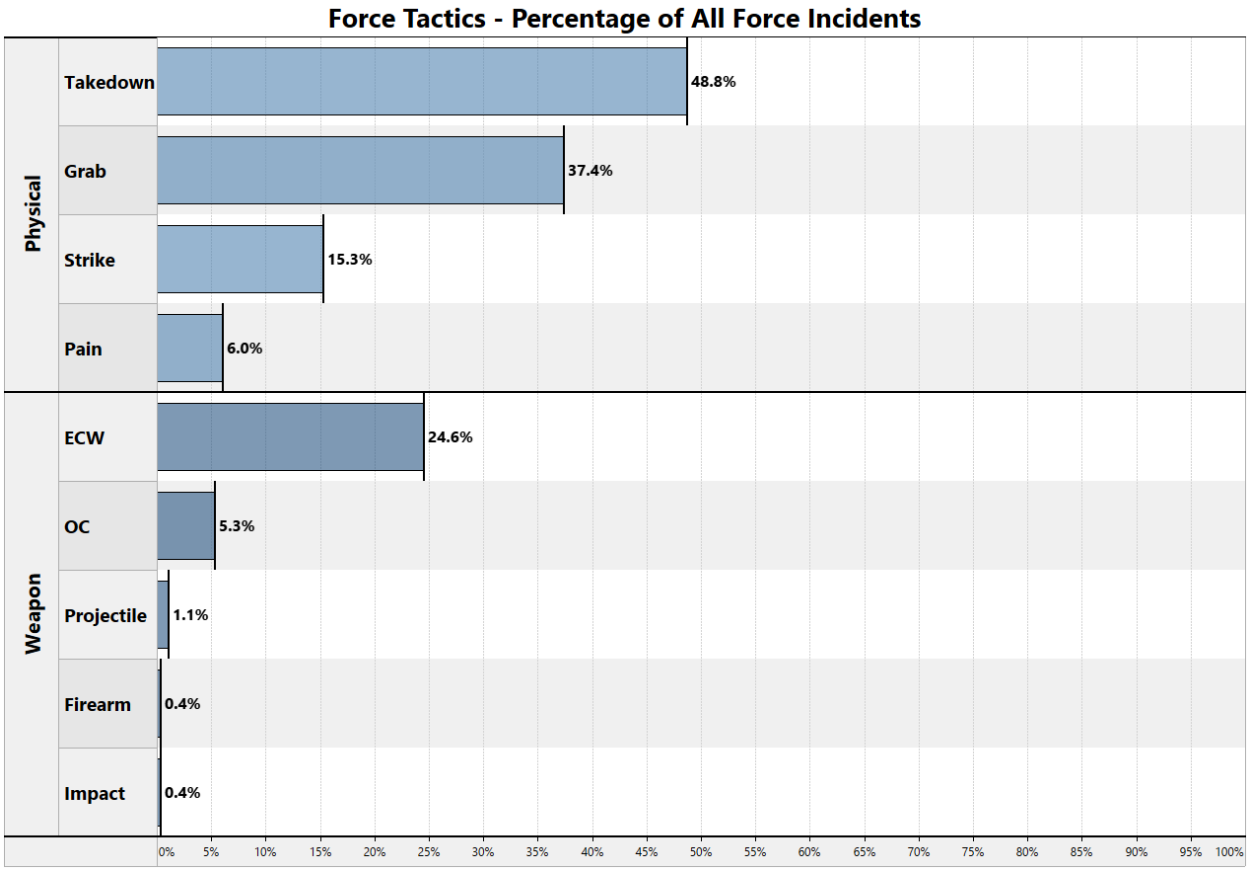
Figure 14: Duluth PD – Uses of Force – Type of Force Used



The IAPro system allows some data to be collected on the types of physical force tactics and weapons used by officers. Takedowns were the most common physical force tactic used by Duluth PD officers (49% of all force incidents). Strikes were used in 15% of force incidents and 6% of incidents involved a pain compliance technique.

Electronic Control Weapons (ECW) were used in 25% of all force incidents while 5% of force incidents involved pepper spray. DPD officers rarely use projectile weapons, impact weapons or firearms.

Figure 15: Duluth PD – Uses of Force – Force Tactics Used



No projectile weapons, firearms or impact weapons were used against any female subjects over the three-year period. Males were more likely than females to have weapons used against them.

Figure 16: DPD Use of Force – Force Tactics Used by Subject's Sex

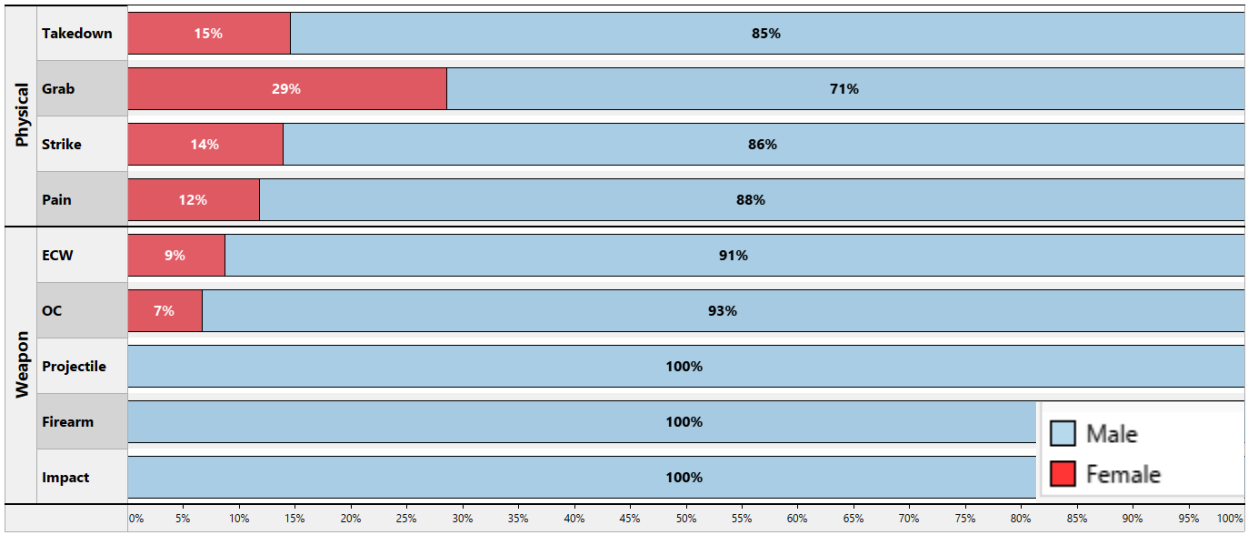
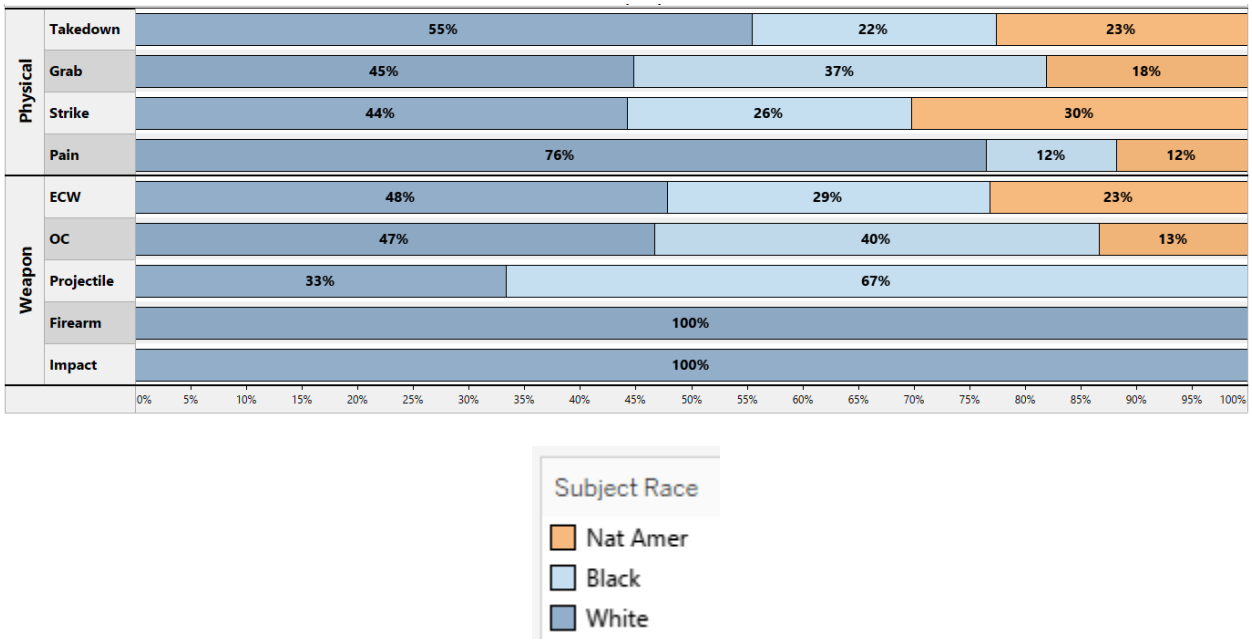


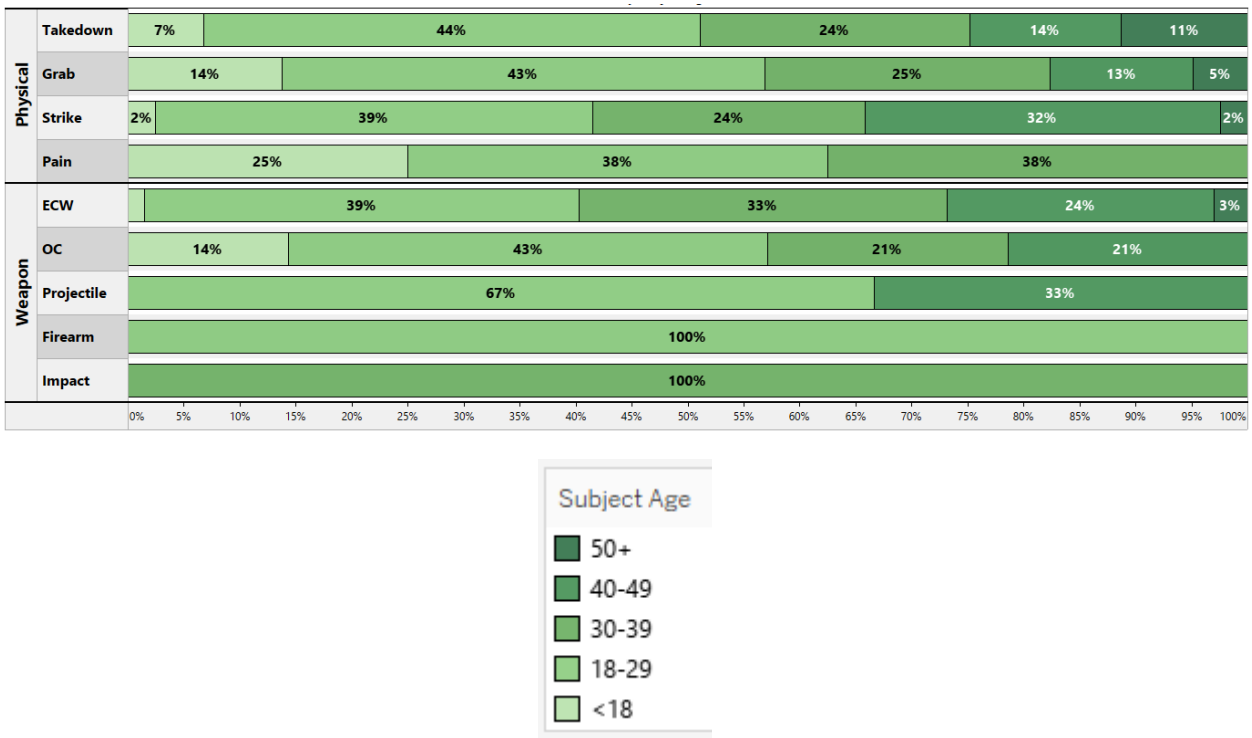
Figure 17: DPD Use of Force – Force Tactics Used by Subject's Race



Only White subjects were involved in incidents where officers used impact weapons or firearms. White subjects were more likely than other racial groups to have pain compliance techniques used against them.

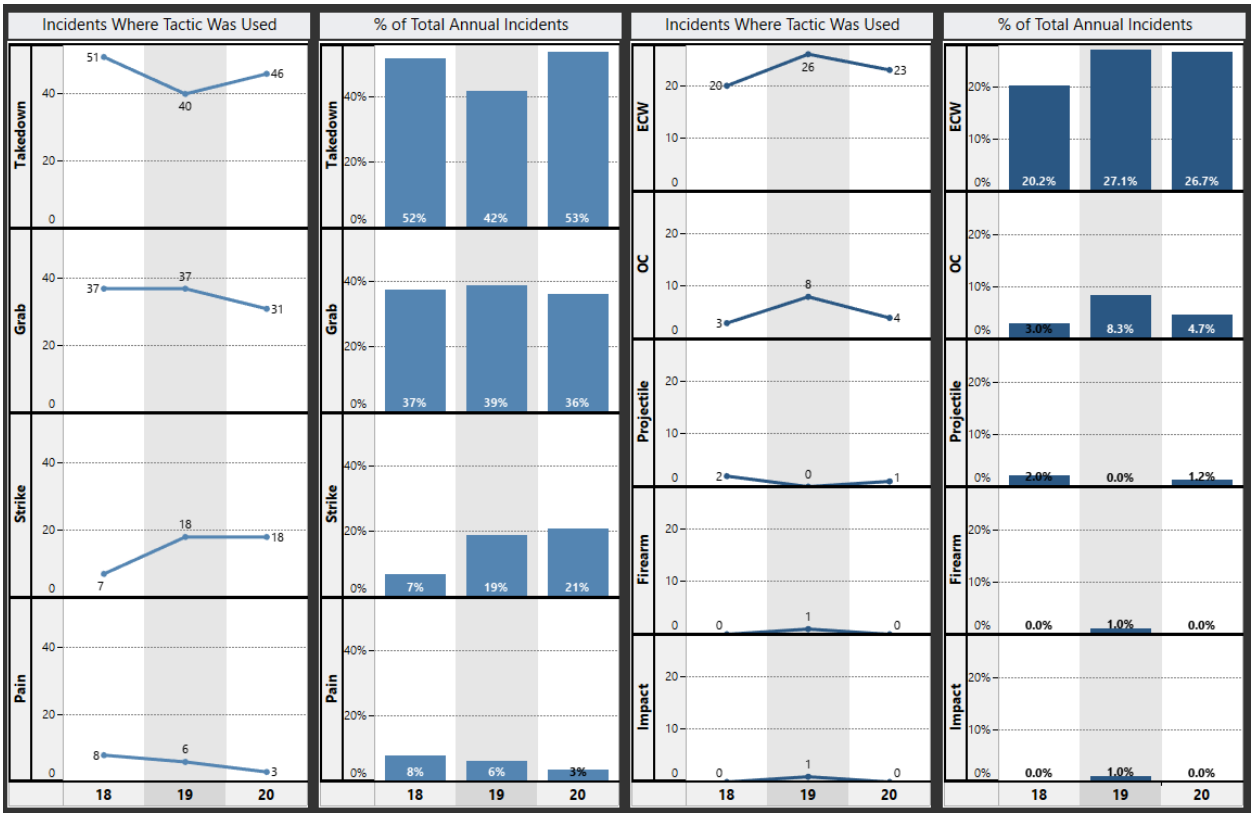
No projectile weapons, impact weapons or firearms were used against juvenile subjects during the three-year period. Only one Juvenile subject had an electronic control weapon used against him. Only two subjects over 50 had any weapons used against them and both incidents involved an electronic control weapon.

Figure 18: DPD Use of Force – Force Tactics Used by Subject's Age



The annual use of Electronic Control Weapons increased from 20% of force incidents in 2018 to 27% in 2019 and 2020. Over the last three years the use of strikes has increased from 7% of all force incidents in 2018 to 21% in 2020 while the use of pain compliance techniques has fallen from 8% to 3% during the same time period.

Figure 19: DPD Use of Force Trends



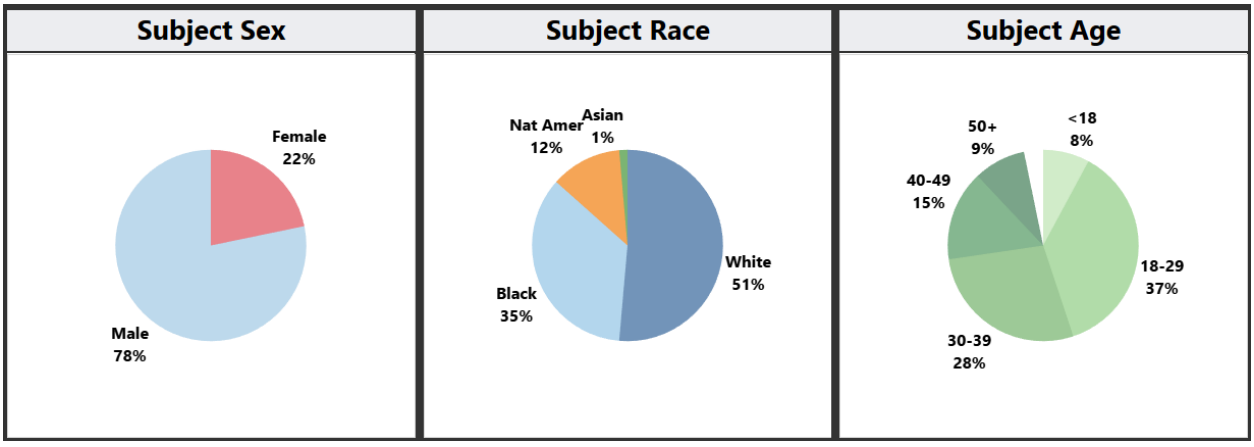
Weapon Pointing Incidents - Subject Demographics

Duluth PD captures data on incidents where officers pointed a weapon at a subject, but the weapon was not used, and no other physical force was used. While all use of force incidents will involve some level of subject resistance or flight from officers, weapon pointing incident may or may not involve subject resistance or flight. Officers may draw their weapons as a safety precaution if they believe the subject is armed or dangerous or if the officers are making a felony stop.

Weapon pointing data from Duluth PD was obtained from the Department's IAPro/BlueTeam records management system. Three years (2018 to 2020) of weapon pointing data was analyzed using the Police Force Analysis System℠. During this three-year period 107 Duluth PD officers pointed their weapons 332 times at 216 subjects.

Four out of five weapon pointing incidents involved Male subjects. Fifty-one percent of weapon pointing incidents involved White subjects while 35% of subjects were Black and 12% were Native American. Eight percent of weapon pointing incidents involved juveniles and 9% involved subjects older than 50. Two-thirds of weapon pointing incidents involved subjects between 18 and 39.

Figure 20: Demographics of Duluth PD Weapon Pointing Subjects



Comparison of Police Uses of Force with Weapon Pointing

The following tables provides a comparison of the demographics of subjects involved in use of force incidents and the demographics of subject who had weapons pointed at them by Duluth PD officers. Females were 9% more likely to be involved in a weapon pointing incident than a use of force incident. Over the three-year period examined, no Asian subjects were involved in any use of force incident, but 1.4% of all weapon pointing incidents involved an Asian subject. Native American subjects were 41% less likely to be involved in a weapon pointing incident than a use of force incident while Black subjects were 25% more likely to be involved in a weapon pointing incident. Juveniles were 29% less likely to be involved in a weapon pointing incident than a use of force incident while subjects over 50 were 46% more likely to be involved in a weapon pointing incident.

Table 37: Subject Demographics of Uses of Force and Weapon Pointing Incidents – Duluth PD – 2018 to 2020

		Uses of Force	Weapon Pointing	Percentage Difference
Sex	Female	20.0%	21.8%	9%
	Male	80.0%	78.2%	-2%
Race	White	51.3%	51.4%	0%
	Black	28.2%	35.2%	25%
	Nat Amer	20.5%	12.0%	-41%
	Asian	0.0%	1.4%	100%
Age	0-17	11.4%	8.1%	-29%
	18-29	43.0%	38.3%	-11%
	30-39	24.4%	28.7%	18%
	40-49	15.0%	15.8%	5%
	50+	6.2%	9.1%	46%

The original call type will determine the likelihood that officers will point their weapon at the suspects involved. Nineteen percent of all pointing incidents are related to a stop for suspected vehicle theft. Vehicle theft is a felony. If officers are aware that the vehicle is stolen prior to contacting the suspect, then the officers will make a "felony stop" with their weapons drawn. Twenty-four percent of weapon pointing incidents involve a contact for a violent crime and 19% are related to a weapon offense. For these types of calls, officers may have reason to believe that the subject is armed and/or dangerous and they may draw their weapons as a precautionary measure for officer safety.

By comparing the difference between actual uses of force and weapon pointing incidents by original call type, we can examine the likelihood that officers will draw their weapons for distinct types of offenses. When officers stop a suspect for vehicle theft, the officers are forty times more likely to point their firearm than they are to use force on the subject. Officers are more than twice as likely to point their firearm than to use force for weapon offenses, drug crimes and traffic offenses. This pattern suggests that for these types of crimes officers are more likely to have information that the suspect was involved in a felony prior to the stop and/or the officers believe that the suspect is armed or dangerous and presents an immediate threat to the officers or others.

By contrast, officers are three times more likely to use force against a subject than they are to point their weapons for calls related to welfare checks, general disturbances and warrant arrests. For these types of calls officers are less likely to have information of a felony offense or that the subject is armed and dangerous prior to contacting the subject and therefore they are less likely to point their firearm at the subject. The need to use force will develop after the officers contact the subjects when the subject flees, threatens the officers or refuses to comply with a lawful order.

The distribution of use of force and weapon pointing incidents by original call types suggests that there may be a deterrent effect from pointing a firearm at a suspect. This deterrent effect is most pronounced in vehicle theft incidents. Vehicle theft is a felony and felony stops often involve the pointing of weapons by officers as an initial tactic. While 19% of all weapon pointing

incidents involve a vehicle theft only 0.4% of uses of force involve a vehicle theft. This suggests that the pointing of a firearm during these incidents may deter subject resistance and flight reducing the need for officers to use force.

Table 38: Original Call Types for Use of Force and Weapon Pointing Incidents – Duluth PD – 2018 to 2020

Original Call Type	Uses of Force	Weapon Pointing	Percentage Difference
Vehicle Theft	0.4%	18.6%	**4000%**
Weapon Offense	7.5%	19.1%	**154%**
Drugs	0.9%	2.2%	**147%**
Traffic	4.4%	10.4%	**135%**
Violent Crime	26.5%	23.5%	**-11%**
Property Crime	16.4%	11.5%	**-30%**
Welfare Check	15.9%	5.5%	**-66%**
Disturbance	24.3%	8.2%	**-66%**
Warrant	3.5%	1.1%	**-69%**
Total	100.0%	100.0%	

Police Searches

This section discusses the importance of collecting data on discretionary searches by police officers. Duluth PD does not currently collect data on searches, so one of the key recommendations of this report is for the Department to begin to gather and record this information.

It is important to examine police searches during any analysis of racial disparities in law enforcement activities. Although discretionary searches are uncommon (usually less than 5% of all stops) an officer's decision to search a Subject could be influenced by bias and prejudice. Traditionally, a search analysis examines two types of variables:

1) Search Rates – After being stopped by the police are some racial groups more likely to be searched than others?

2) Hit Rates – Of the subjects who are searched, are officers more likely to find contraband on some racial groups than others?

The theory is that if search rates are higher for one racial group than another and if the hit rate for searches is lower, then the officers may be making searches of that racial group based on bias rather than having evidence of potential contraband.[86] There are several problems with this traditional method for analyzing searches.

Types of Searches

Most studies simply examine whether a search was conducted and whether contraband was discovered because of that search. However, not all searches are created equal. There are

[86] "A large-scale analysis of racial disparities in police stops across the United States," Nature Human Behavior, May 4, 2020

several distinct types of searches that an officer may conduct, and they do not involve the same level of discretion by the officer:

1) **Search Incident to Arrest** – This is the most common type of search and can be made whenever any Subject is taken into custody. Once a Subject is handcuffed the officers will typically pat the Subject down for weapons or sharp objects and will remove any items on their person for safekeeping or evidence before they are booked into jail.

2) **Inventory Search** – When a vehicle is impounded an officer may conduct a search of the Subject's vehicle to inventory its contents. Depending on the circumstances, a warrant may need to be obtained before a search can be conducted.

3) **Search Warrant** – An officer may obtain a search warrant in advance and then execute the warrant when the Subject is contacted, or the officer may obtain a search warrant after a Subject has been detained. The warrant will define the permissible scope of the search.

4) **Officer Safety Search** – If an officer contacts a Subject that they have reason to believe may be armed or dangerous, they may conduct a cursory pat down for weapons. This type of search is limited to weapons only and the officer is not allowed to open small containers or soft objects that could not be used as a weapon.

5) **Consent Search** - An officer may ask anyone at any time for consent to search their person or their vehicle.[87] The Subject has a right to refuse the search and the officer must inform them of that right. Since consent to search is voluntary, many agencies require officers to obtain a signed written consent form before a search can be conducted. Once the search has begun, consent can be revoked at any time assuming that nothing illegal had been discovered. The officer may have a reason for asking for consent or they may have no reason at all. Since this kind of request by an officer is highly discretionary, the risks

[87] Some agencies, like Duluth PD, may have policies that limit when officers may ask for consent to search.

of bias and prejudice playing a role in the request for consent are high. Therefore, data on consent searches should be included in any racial disparity analysis.

Most studies that examine racial disparities in searches have found that Black and Hispanic subjects are searched at a higher rate than White subjects but the hit-rates for Black and Hispanic subjects is lower than the hit rate for White subjects. These finding suggest that officers may be using inappropriate criteria or bias when deciding who they are going to search. Since most searches are made incident to arrest and are non-discretionary, if Black and Hispanic subjects were arrested at higher rates than White subjects, that would explain the higher search rates. If most of these searches were incident to arrest, then the decision to search would not be based upon an officer's suspicion that the Subject had contraband or weapons but instead was merely part of a routine arrest process. This would explain the low hit rates for these types of searches.

A more effective way to analyze racial disparities in officer search decisions would be to focus on consent searches and officer safety searches.

Consent Searches

Unlike all other types of law enforcement activities which require reasonable suspicion or probable cause before any action can be taken, an officer can ask anyone at any time for consent to search their person or their vehicle. Some agencies, like Duluth PD, may have policies that limit when officers may ask for consent to search.

For a racial disparity analysis, the critical question is whether the officer asked for consent to search regardless of whether a search was conducted. Since the request for consent does not require any reasonable suspicion or probable cause, if an officer disproportionately asks one racial group for consent to search, that may be an indication of racial bias.

It is also important to know how different racial groups respond to an officer's request to search their person or their vehicles. This consent rate may also impact the hit rate. For example, a Subject from a racial minority group may feel intimidated by the officer and believe that they will

get into trouble if they refuse consent. They may also feel that by refusing it may make the officer more suspicious. Non-native English speakers or immigrants may not fully understand their rights and may end up consenting as a result. It could also go in the opposite direction and the Subject may simply refuse to cooperate with the officer because they do not trust law enforcement. All these factors will impact both the consent rate and the hit rate when a search is conducted.

Many scenarios could play out that would affect these rates. For example, White subjects may feel less intimidated by officers and may become more defiant when asked for consent regardless of whether they have anything to hide. This scenario could produce a lower consent rate and a higher hit rate. Individuals from certain minority groups may be more willing to give consent because they know that they have nothing to hide, and they may feel that they need to prove that to the officer. This would produce a higher consent rate but a lower hit rate for this group.

Officer Safety Searches

When an officer stops or detains someone, the officer may conduct a cursory pat down of the person if the officer has reason to believe that the Subject may be armed and dangerous. This search must be based on the officer's observations of the Subject or prior information received from a victim or a witness that the Subject was possibly armed. Therefore, it is important to know why an officer conducted a pat down for officer safety and whether any weapons were found.

Search Hit Rates

Search hit rates are presented for illustrative purposes only. The sample size is too small, and the data quality is too poor to reach any definitive findings. An additional problem is that the database does not distinguish between contraband recovered during a consent search and contraband recovered during other types of searches. For example, if a consent search did not

yield any contraband, but an arrest was made and during a search incident to arrest contraband was found the database would record the contraband, but it would not indicate during which search it was discovered.

Location Analysis

The calls for service data obtained from Duluth PD was geocoded with latitude and longitude coordinates. In some cases the name of the location associated with the incident (i.e. store name, restaurant name, apartment complex name, etc.) is also included in the record. This section examines CAD calls for service by geographic area and location type.

The geocoded CAD records were used to create heat maps that present the spatial patterns of offending behaviors and law enforcement activities within the City of Duluth and surrounding areas. The primary goal of providing these maps as part of this report is to highlight that neither criminal behavior nor law enforcement actions are spread uniformly throughout the City. As reforms are developed and new strategies are implemented, the impacts will not be felt equally across the jurisdiction. For example, a policy that limits the number of traffic stops would greatly affect law enforcement activities on highways, arterials and major intersections, but it would have little impact on residential neighborhoods.

Figure 21: Point Map for All Duluth PD Calls for Service

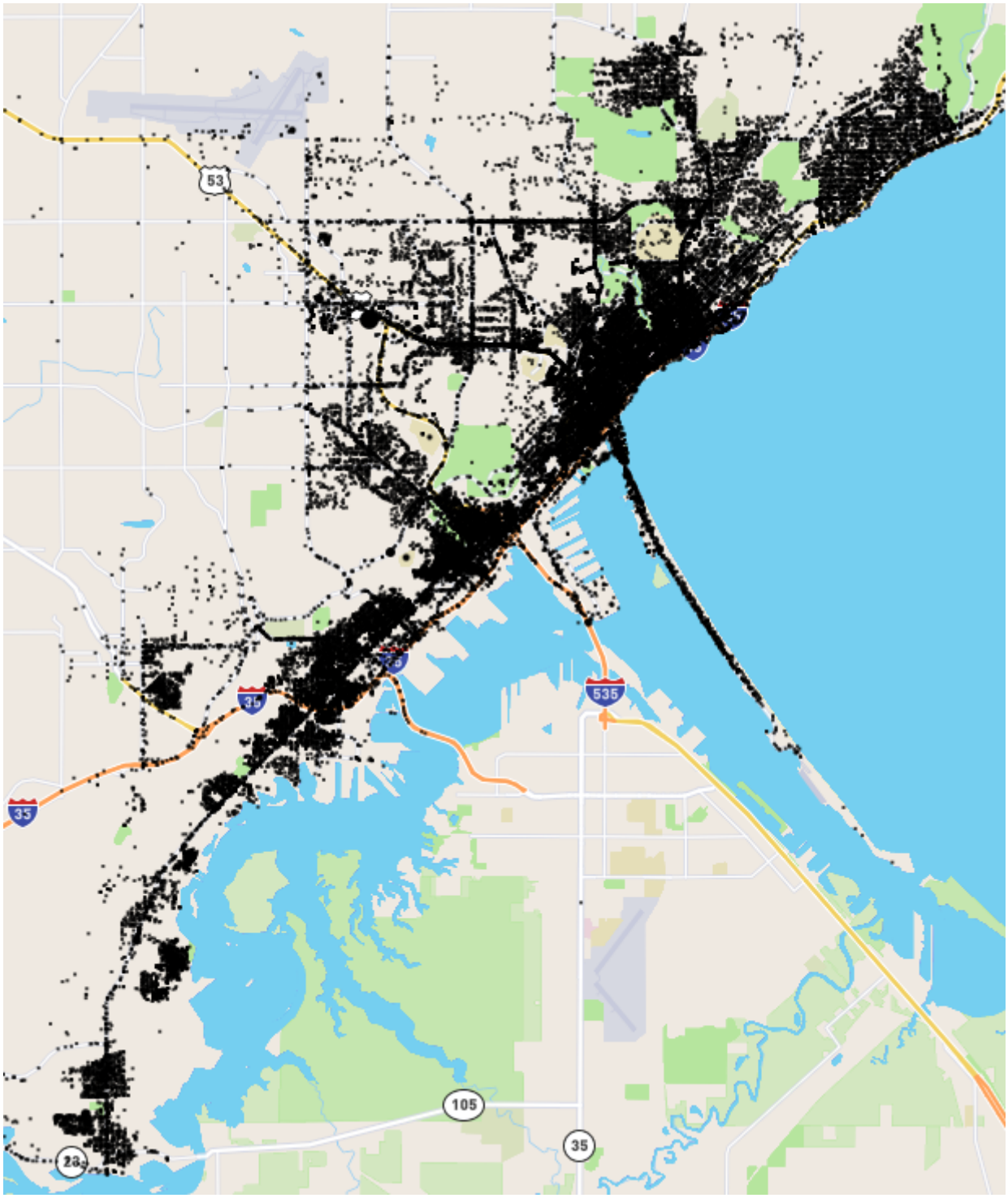
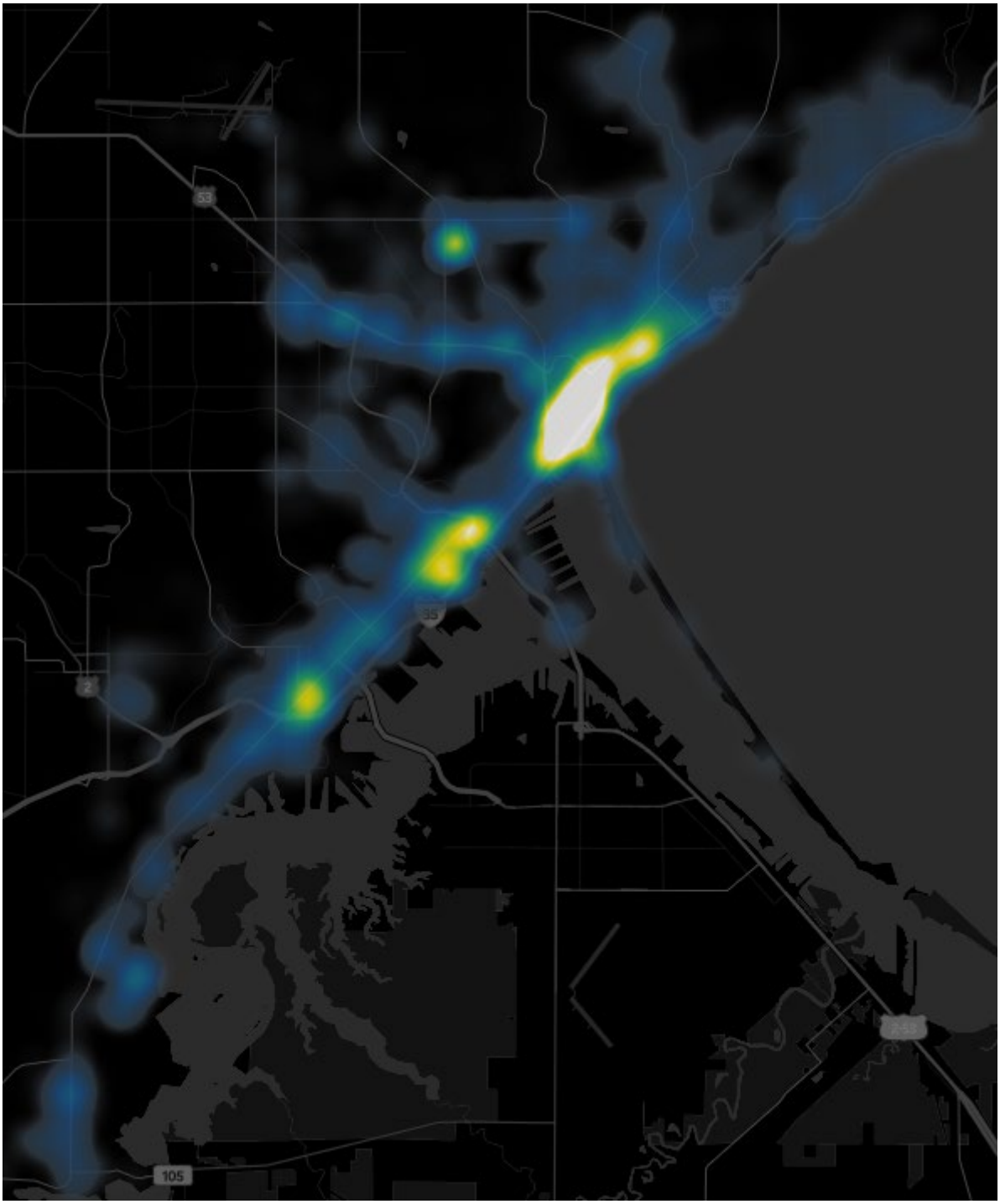


Figure 22: Density Map for All Duluth PD Calls for Service



Recommendations

Data Collection Recommendations

Collect Demographic Data for All Officer Initiated Contacts

The existing CAD data does not contain a field to distinguish officer-initiated contacts from calls for service. Officer-initiated contacts have a higher risk of being influenced by officer bias than calls for service. Therefore, it is essential that comprehensive data be collected for all types of officer-initiated contacts. This database could be constructed outside of the existing CAD system and should be customized to facilitate a comprehensive disparity analysis.

The data collection program should be designed to be a series of checkboxes and dropdown menus that can be filled out by officers easily and quickly. Free form text boxes should be avoided to eliminate the problem of typographical errors. Officers should be required to fill out all the fields in the database and should not be given the option of "other" or "unknown."

At a minimum the following fields should be included in the database:

1) Date
2) Time
3) Address (geocoded location information if possible)
4) Type of location (street, school, business, park, etc.)
5) Reason for the stop
6) Subject demographics
    a. Age
    b. Race
    c. Sex
    d. City of residence
7) Type of investigation (property crime, violent crime, traffic offense, etc.)
8) Law enforcement action taken (arrest, citation, infraction, warning, etc.)
9) Level of offense (felony, gross misdemeanor, misdemeanor, civil infraction, etc.)
10) Officer identifying information (name and serial number)

Collect Demographic Data for All Consent Searches and Officer Safety Searches

Whenever an officer conducts a consent search or a pat down for weapons, the officer should record all of the information included on the officer-initiated contact data form as well as the following search related questions.

Consent Search Questions

- Did the officer request consent to search the Subject's person or vehicle? (Yes/No)
- If Yes, Did the Subject consent to the search? (Yes/No)
- If Yes, Did the search produce any contraband or weapons? (Yes/No)
- If Yes, what was recovered?
    - Firearm
    - Knife
    - Impact Weapon
    - Illegal Drugs
    - Alcohol
    - Stolen Property
    - Other: _____

Officer Safety Search Questions

- Was a search conducted for officer safety? (Yes/No)
- If yes, what was the safety concern the officer had?
    - Victim or witness said the Subject was armed
    - Subject made furtive movements or refused safety commands (e.g. "Take your hands out of your pockets!")
    - Officer observed object that he/she perceived to be a weapon
- Were any weapons recovered during the search? (Yes/No)
- If yes, what weapons were recovered?
    - Firearm
    - Knife
    - Impact Weapon

Uses of Force Questions

Another valuable use of force data point to collect would be incidents where force was legally authorized but was not used by the officer. Collecting this information will tell us how officers are exercising their discretion to use force and will provide critical data on the use of de-escalation techniques and how effective those techniques are. We are not aware of any other law enforcement agency in the country that is collecting this type of counter factual[88] data. This type of analysis would be invaluable for evaluating the effectiveness of de-escalation training as well as identifying officers who are adept at using these techniques.

Use of Force Questions for CAD

- Was any type of force used? (Yes/No)
- If Yes, was the force reportable force? (Yes/No)

- Was any type of force used? (Yes/No)
- If No, Did the officer have legal justification to use force even if no force was used? (Yes/No)
- If Yes, was force used? (Yes/No)
- If No, what would have been the legal justification for using force?
    - Suspect fled from officers
    - Suspect failed to comply with officer's commands or orders
    - Suspect threatened officer or others
    - Suspect assaulted officer or others
- Why was force not used when it was authorized?
    - Officer threatened to use force by drawing weapon
    - Officer verbally threatened to use force
    - Officer actively engaged in verbal de-escalation
    - Officer waited until suspect complied
    - Suspect escaped before force could be used

[88] A counterfactual outcome in statistics is a potential outcome that would be realized if the individual received a specific value of the treatment. For each individual, one can observe only one, but not both, of the two potential outcomes. The unobserved outcome is called the "counterfactual" outcome.

Develop a Community Survey Instrument

Conducting surveys[89] of local residents about their opinions of and interactions with DPD officers would provide valuable guidance for developing reforms that will improve community trust and confidence.[90] If these surveys are conducted regularly, they can serve as an evaluation tool to measure the impacts of any reforms that are implemented.[91] There are several national police-public contact surveys[92] that have been conducted over the years. These surveys tend to produce similar results. For example:

- Black respondents have a less favorable view of police than White respondents do.
- Black respondents are less likely to report a crime to the police than White respondents are.
- Black respondents are more likely than White respondents to say that police frequently use excessive force and are too quick to use lethal force.
- Black respondents are less likely than White respondents to consider their local police officers to be courteous and fair.
- Black respondents are much less likely than White respondents to feel confident that local police officers treat all racial groups equally.
- Black respondents are more likely to report being stopped by the police and having a bad interaction with the police than White respondents are.
- Nearly two-thirds of all Americans believe that police officers regularly engage in racial profiling and nearly the same number of respondents oppose this practice.

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[89] 2019 Citizen Survey of Police Services, Plano Police Department
[90] Citizen Satisfaction Report, Calgary Police Commission, September 2020.
[91] Conducting Community Surveys, A Practical Guide for Law Enforcement Agencies, Bureau of Justice Statistics, Office of Community Oriented Policing Services, October 1999.
[92] "Policing in America – Understanding Public Attitudes Toward the Police. Results from a National Survey." Cato Institute, 2016.

- Black respondents are five times as likely as White respondents to personally expect worse treatment from police officers.

Law enforcement agencies typically do not perceive their officers' behavior in the same way that the public does, and management will believe that they have policies and procedures in place to ensure constitutional policing. The practice of racial profiling is unconstitutional, and, in many jurisdictions, it is also explicitly prohibited by law and/or policy. No police chief could ever condone racial profiling and departments will routinely deny that their officers engage in profiling. Yet, despite laws prohibiting the practice and assurances from law enforcement that racial profiling does not occur, the majority of the public does not believe that officers treat racial and ethnic groups equally.[93]

After examining the issue of racial profiling for more than 20 years and observing how policy makers and police departments respond to accusations of biased policing, our belief is that there is no law, policy or training program that will change the public's perceptions of biased-based policing. We believe this is because there is no law, policy or training program that will significantly reduce the racial disparities observed in policing or the criminal justice system. Police departments and police officers already know that racial profiling and bias-based policing is unconstitutional, and they deny that they are engaged in these unlawful practices. Since biased-based policing and racial profiling are already unlawful and there is no policy or training program that will reduce quantitative racial disparities in policing data, a more productive community engagement strategy would be to focus on providing more information to the public and educating the community on what is happening on the streets every day. The public currently views racial disparities in policing activities as evidence of racial profiling and racial bias. It is important for law enforcement agencies to provide comprehensive data to the public to help explain why these disparities exist. It is also important to be responsive to any questions or concerns about policing activity that are raised by the community.

[93] "Majority of Public Favors Giving Civilians the Power to Sue Police Officers for Misconduct," Pew Research Center, July 9, 2020.

Transparency is the key to building community trust. Being able to engage in an open and honest dialogue about any policing issue will foster trust and confidence in the police. It is also important to focus on the qualitative interactions between police and the public. If police officers are professional, respectful, courteous, and fair in all their interactions with the community, including persons they arrest and use force against, then public opinion of the police will improve even if the quantitative disparities in policing statistics do not change. On the other hand, if police officers routinely have unprofessional or disrespectful encounters with the people they encounter, it will not matter if the department has done implicit bias training or de-escalation training. The public will not care if there is a strong policy prohibiting racial profiling or if the department has a sophisticated early warning system. The only thing that will matter to the public is how the officer behaved during these negative encounters, especially if these events are captured on video. Most law enforcement agencies in the country have implemented several progressive reforms since the events in Ferguson Missouri in 2014. However, as Minneapolis PD discovered, a single high-profile incident where officers are perceived as being discourteous, unfair, or indifferent to human life will immediately negate years of positive policing reform and will completely erode community trust and confidence in a police department and all its officers.

There are a variety of ways that the Duluth Police Department could solicit additional feedback from the community:

- Online Surveys – This is a simple, inexpensive but unscientific way to obtain feedback from the community. The survey could ask broad questions about the perceptions of the Duluth Police Department as well as specific questions about interactions the respondent may have had with DPD officers in the preceding 12 months.
- Police-Contact Surveys – Whenever an individual has an interaction with a DPD officer, the person stopped could be provided with a link and a code that would enable them to provide feedback about that encounter. This could be done anonymously, and there could be a call-in option with questions for those who do not have computer access.
- Polling – A formal scientific survey could be developed like the national surveys that have been conducted on policing. This would involve the selection of a randomized sample that

could be representative of the community. These types of surveys can be expensive to implement, but they would only need to be done once every few years.

- Focus Groups – The Duluth Police Department may already have advisory groups, commissions and task forces that provide advice for policy makers. While these groups provide valuable information, sometimes the views of the members of these groups may not necessarily reflect the opinions of the general community. The DPD may want to obtain community feedback on specific issues of concern, or they may want to solicit opinions about a particular police issue or neighborhood problem. These types of issues can be addressed by assembling a focus group with a trained neutral facilitator. The structured feedback received could then be turned into impactful actions. Focus group participants could be volunteers, or they may receive a stipend or some other benefit for participating. You could have some groups that meet only once to discuss a specific issue and other groups could meet on a regular basis to discuss ongoing issues of concern.

  Another use for focus groups would be for obtaining community feedback on body camera videos. Videos of routine law enforcement encounters could be reviewed to solicit feedback on the officers' behavior and how these interactions may be improved.

- General Community Feedback – The DPD could have a dedicated phone line and website where community members could raise specific issues of concern and could make general comments about policing and public safety and could also provide positive feedback to the DPD when officers perform exceptionally well. The DPD may not be aware of all the specific issues and concerns that the community may have about policing in the City. The DPD is also unlikely to have knowledge of all the incidents where its officers perform well. It is important for police management and policy makers to have a full understanding of both the positive and negative encounters with police officers. Negative feedback can be turned into policy and training reform while positive feedback can be used to encourage and incentivize officers for exceptional work.

If the DPD solicits feedback from the community, it is essential that this information is actively reviewed by management and incorporated into new and ongoing reforms when possible. The

community needs to be made aware that their comments are appreciated and will be incorporated into the ongoing reform process. If the policy is effective at addressing the specific community concern raised, then it should have a positive influence on police-community relations even if other issues, such as racial disparities, are not addressed.

Data Dashboards and Reporting Recommendations

Create interactive dashboards for both internal and public consumption using data from:

a) National Incident Based Reporting System (NIBRS)

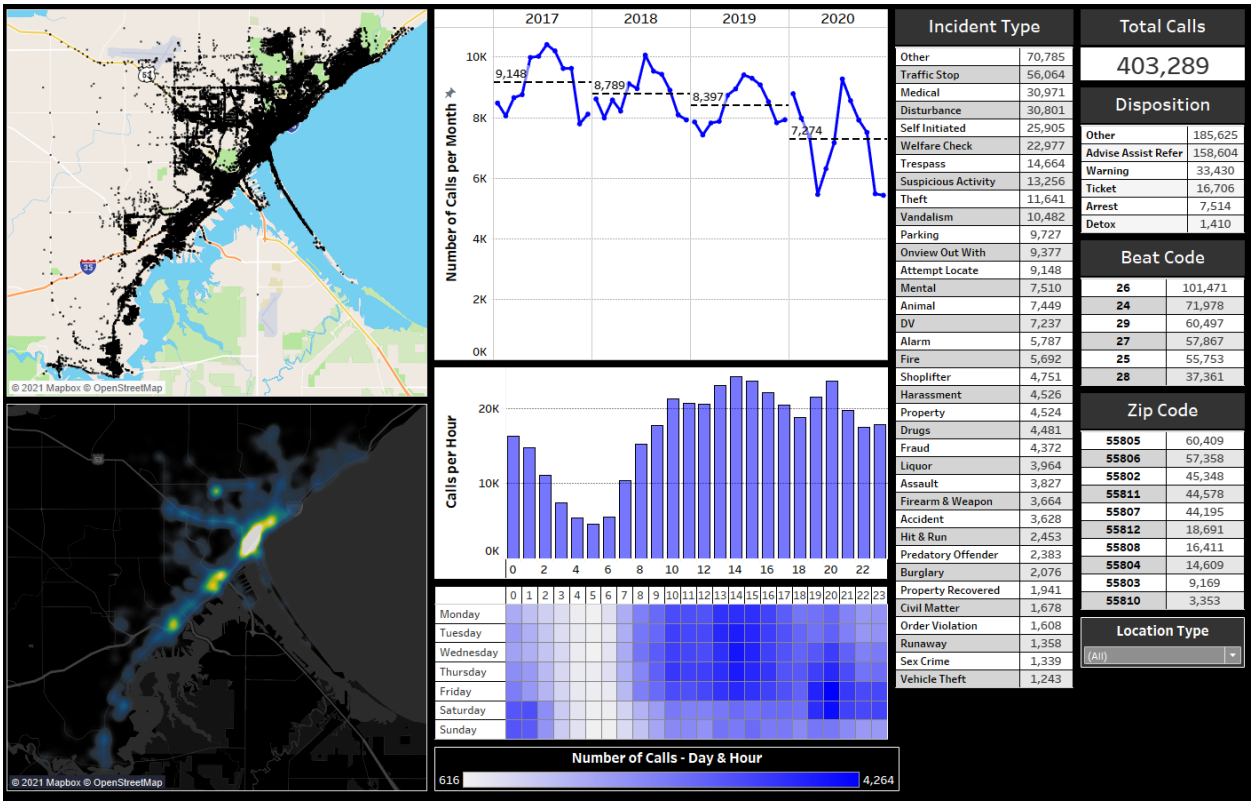
NIBRS data is readily available for most law enforcement agencies in the country. Raw data can be downloaded from the FBI's Crime Data Explorer website.[94] This database contains information on reported crimes and arrests and includes the demographics of both victims and suspects. This information could be displayed on interactive dashboards that could be accessed by the community and would provide a look at crime trends and patterns in the city. As Duluth PD begin reporting data to NIBRS this could be used as a data source for public dashboard systems.

b) Computer Aided Dispatch System (CAD)

This database contains a record of every call for service made to the Duluth Police Department and every officer-initiated stop made by DPD officers. This data provides a detailed look at law enforcement activity within the city including geolocation data. This is an example of a dashboard created from the CAD data:

[94] Crime Data Explorer, Federal Bureau of Investigation

Figure 23: Sample Calls for Service Dashboard for Duluth PD



c) Complaint and Internal Affairs data

Providing comprehensive data on complaints against police officers, internal investigations and disciplinary actions taken, can help to improve community trust and confidence in the police. Several agencies have begun using interactive dashboards to display complaint data and allow the public to query the data themselves:

- King County PD's Office
- Chicago Police Department
- New York Civilian Complaint Review Board
- Seattle Office of Police Accountability
- Chattanooga Police Department

d) Community Survey Results

Results from community surveys and focus groups could be translated into interactive dashboards.[95] This would encourage more feedback from the community when individual members agree or disagree with the survey results. It would also be valuable to track community sentiment about the police over time to determine whether policing reforms are impacting public opinion.

Racial Disparities and Reform

To craft an effective solution to a problem, we must first understand the root cause of the problem. Racial disparities in law enforcement statistics are the symptom of a much larger problem of societal, institutional, and structural racism in our country. These disparities can also be exacerbated by acts of bias and profiling by individual officers. The statistical disparities are the manifestation of an underlying problem that must be addressed before the disparities can be reduced.

Data collection and analysis is essential for both problem identification as well as measuring the impacts and outcomes of any reforms that are implemented. To be effective and impactful, data collection must be:

- Ongoing – A single study will not provide much value if it is done in isolation. An ongoing analysis will enable longitudinal studies that can examine trends and patterns and evaluate the impacts and effectiveness of any reforms that are implemented.
- Comprehensive – Most agencies keep track of how many times things occur (stops, arrests, searches, uses of force, reported crimes, etc.). However, to understand what is happening during police encounters, we need to know the context behind the frequencies. We need to go beyond just counting how many times certain events occur, when and where the events happened and

[95] Micro-Community Policing Plans, Seattle Police Department.

who was involved to also answer questions about why officers decide to take the actions they do and how officers exercise their law enforcement authority.

- Standardized – It is difficult to study data in isolation. To understand the broader context of policing, we need to include and examine comparable data from other jurisdictions such as data from the National Incident Based Reporting System (NIBRS).[96]

How can data be used to help reform in police departments? There are five primary areas where data can have the greatest impact on reform:

1) Policies

A clear and concise policy will provide guidance for officers as they carry out their law enforcement duties. Policies that set bright lines between acceptable and unacceptable behavior are the easiest for officers to follow. Long policies with potentially conflicting sections and nuanced language can lead to confusion and a lack of compliance. Data can be used to identify the need for new policies or changes to existing policies. After implementation, data can be used to measure the impacts of those policies and whether the desired outcomes are being achieved.

2) Training

Officers appreciate in-service training, and they often complain about the limited amount of training that is available. Training can be costly for agencies and may take officers away from other responsibilities. Whenever an agency changes its policies or procedures it is essential for officers to be trained to ensure that the reforms achieve their intended results. Data can be used to identify elevated risk or unwanted behavior during stops, searches and uses of force. Data can identify individual officers who may need to be retrained and can also highlight systemic deficiencies that may require modifications to existing in-service training programs.

[96] While the FBI discourages the use of Uniform Crime Reporting (UCR) data for "ranking" jurisdictions, comparative crime data can help provide valuable context and perspective. Crime data should not be examined in isolation but should be included in any comprehensive analysis of an agency's policing practices.

3) Supervision

Most officers operate independently during their shifts and will only see their Sergeant at the beginning and end of the shift or when an issue arises while they are on duty. It is important for frontline supervisors to closely monitor their officers' performance data and take corrective measures whenever issues or problems occur.

4) Accountability

There is often tension between an agency's internal affairs section (civilian or sworn) and police officers. Officers must feel like they are treated fairly when a complaint is filed against them, but they must also be held accountable when misconduct occurs. When this delicate balance becomes skewed in one direction or the other, the credibility of the accountability process can be lost. The use of data can help to ensure that officers are treated fairly and consistently by the accountability system. Data can also help management focus on areas that are of growing concern before they become a significant problem or generate complaints.

5) Transparency

Law enforcement must be in constant communication with the communities they serve. Officers need to know where the problems are and how to best serve the public and the community needs to trust that their police department is looking out for their best interests. Unless there is an investigative reason for withholding information, law enforcement agencies should be willing to share all types of data with the public. This will help to foster an open, honest, and well-informed dialogue.

Other Recommendations for Consideration

The following recommendations are based on our collective experience and research and are not necessarily based upon specific findings from this study. These recommendations are focused on transparency and building trust with the community.

Written Warnings

In the early 2000s the Seattle Mayor implemented several policing reforms designed to address concerns about racial profiling in traffic stops. One of those changes was to require officers to issue a written warning whenever a traffic stop was made for a violation, but no infraction was issued. These written warnings were identical to an infraction form, but they were not filed with the municipal court, and they did not affect the person's driving record. The written warning included the officer's name and badge number and listed the reason for the stop. The driver was given a copy of the written warning and the SPD retained the original. Some of the written warning information was entered into a database. This program allowed the SPD to examine all traffic stops made by police officers and police management could study how officers were exercising their discretion to issue a warning rather than writing a traffic infraction. They could also examine racial disparities issues related to traffic stops because a detailed record was made over every traffic stop and not just the stops where an arrest was made, or an infraction issued.

Just before the written warning policy was implemented the SPD hired a consulting firm to conduct a biennial police-public contact survey of Seattle residents. This survey asked respondents about their general impressions of the Seattle Police Department as well as any interaction that the respondent had with Seattle Police officers in the prior 12 months. The results of the first survey were like the findings of national surveys that had been conducted and they found that there was significant distrust of police among Black residents and a high percentage of Black drivers reported having a negative experience with police during a traffic stop. Two years after the written warning policy was implemented a second police-public contact survey was conducted. The results were like the prior survey except for one specific question: "If you were stopped by the police while driving in the last 12 months, do you believe the officer

had a legitimate reason for stopping you?". The positive responses to this question increased dramatically from the prior survey and the most significant increase was from Black respondents. The only significant policy change in traffic stops during this period was the implementation of the written warning program. While we do not know for certain, it is reasonable to assume that this program dramatically changed how drivers viewed the legitimacy of the police stop. Although the outcome of the stop is the same (i.e. the driver gets a warning instead of a ticket), when the driver receives an official piece of paper from the officer that explains why they were stopped, the driver is more confident that the officer behaved appropriately. If no written warning is given and the driver believes that the officer had no basis for pulling them over, then the verbal warning may simply reinforce their belief and lead to more distrust of the officer and the SPD.

The Seattle Police Department has continued using the written warning program to this day and it is included in their policy manual as a Traffic Contact Report (TCR).[97]

Business Cards for Officers & Policy Requiring Officers to Hand Them Out

Many concerns have been raised across the country about officers failing to properly identify themselves especially in situations involving demonstrations. Although officers are normally required to wear identification with their last name and badge number, an individual who wants this information may not be able to see it or they may not have a way to remember it or write it down. If an individual has a concern about a police encounter or they want to compliment the officer and they do not have the officer's information, then they may be less likely to contact the department with their feedback.

If all officers were provided with business cards and they were required to hand out these cards to anyone they encountered including individuals that they cite and arrest, the community would perceive this as professionalism and that the officers have nothing to hide. The business card could provide contact information for the DPD including a way for people to provide comments

[97] 16.230 - Issuing Tickets and Traffic Contact Reports, Seattle Police Department Manual. July 1, 2019

or complaints about the officer's conduct. If the DPD implements an online police-public contact survey, then the link for that survey could be included on the business card.

Use Body Worn Camera Video for Training and Community Engagement

Body worn cameras are now commonplace in policing. Originally body cameras were designed to be a police accountability tool and many advocates hoped that body cameras would modify policing behavior and reduce uses of force and officer misconduct. Numerous studies have been conducted that have produced inconclusive results on how body cameras may impact officer behavior.[98] Body cameras have proved to be a useful tool for gathering evidence for prosecutions and the videos are used more often to exonerate officers from complaints of misconduct than to sustain a complaint. Officers are mostly supportive of wearing body cameras because the videos can be used to protect them from unfounded complaints, and it is common for the videos to be used to support charging a complainant for filing a false report against an officer.

Body camera videos are an underutilized resource. Millions of dollars are spent each year to manage and maintain thousands of hours of video footage and yet these videos are seldom used outside of the complaint investigation and criminal prosecution process. There are three primary areas where body cameras could make a significant impact:

- Training – Use DPD videos to show examples of both model behavior and actions that should be corrected. Use the videos to develop a consensus among officers about appropriate conduct in each situation.
- Community Engagement – Videos can be used to provide context and details of high-profile incidents and can also be used to show the public the kinds of situations that officers face daily.
- Research and Analysis – A systematic review of video footage may reveal strengths and weaknesses in existing policies and training.

[98] "Research on body-worn cameras," Criminology & Public Policy, February 2019.

APPENDIX A - Data Sources & Statistical Methods Used

National Incident-Based Reporting System (NIBRS)[99]

The National Incident-Based Reporting System (NIBRS) has been implemented over the last few years to improve the overall quality of crime data collected by law enforcement. NIBRS captures details on each single crime incident including information on victims, known offenders, relationships between victims and offenders, arrestees, and property involved in the crimes.

Local, state, and federal law enforcement agencies collect a variety of details about each incident, including the time and location of the crime; the circumstance of the incident; the characteristics of the victim and offender (age, sex, race, and ethnicity); the victim's relationship to the offender; the involvement of weapons or drugs; property loss; and whether the crime was motivated by bias.

In 2019, there were 5,465 violent-crime incidents and 40,276 property-crime incidents reported by thirty-eight law enforcement agencies in Minnesota that submitted National Incident-Based Reporting System (NIBRS) data. These agencies account for 35% of the total state population.

NIBRS records where the age, race or sex were unknown were excluded from the calculations. NIBRS collects ethnicity data separately from race but about half of the NIBRS records for ethnicity were listed as unknown. Therefore, ethnicity was not used in the calculation and Hispanic/Latino records were included with records for their recorded race (e.g. White Hispanic was coded as White, Black Hispanic as Black, etc.). Census data records for individuals who reported having two or more races, but no race was identified were excluded from the population percentages.

[99] https://www.fbi.gov/services/cjis/ucr/nibrs

Statistical Methods Used

Descriptive Statistics

Descriptive statistics are used to describe the basic features of the data in a study. They provide simple summaries about the sample and the measures. Descriptive statistics describe what the data is or what the data shows.

Descriptive statistics allows data to be characterized based on its properties. There are four major types of descriptive statistics:

1. Measures of Frequency – Shows how often something occurs
    - Count
    - Percent
    - Frequency
2. Measures of Central Tendency - Locates the distribution by various points
    - Mean
    - Median
    - Mode
3. Measures of Dispersion or Variation - Identifies the spread of Scores by stating intervals
    - Range
    - Variance
    - Standard Deviation
4. Measures of Position - Describes how Scores fall in relation to one another
    - Percentile Ranks
    - Quartile Ranks

Proportionality Measures

- The absolute risk (AR) is the probability of an event in a sample or population of interest.
- The relative risk (RR) is the risk of the event in an experimental group relative to that in a control group.
- The odds ratio (OR) is the odds of an event in an experimental group relative to that in a control group.

A Risk Ratio (RR) or Odds Ratio (OR) of 1.0 indicates that the risk is comparable in the two groups. A value greater than 1.0 indicates increased risk; a value lower than 1.0 indicates decreased risk. RR and OR convey useful information about the effect of a risk factor on the outcome of interest. However, the RR and OR must be interpreted in the context of the absolute risk. Here is a hypothetical example of how to calculate RR and OR:

- In a sample of one hundred subjects who were arrested by the police, eighty were White and twenty were Black. The probability (AR) of a White Subject being arrested by the police is 80% (80 White subjects Arrested / 100 Total subjects Arrested) and 20% for a Black Subject (20 Black subjects Arrested / 100 Total subjects Arrested).
- Of the one hundred subjects who were arrested ten subjects were involved in a use of force incident (6 White subjects and 4 Black subjects). The probability (AR) of a White Subject being involved in a use of force incident is 60% (6 White subjects Involved in Force / 10 Total subjects Involved in Force) and 40% for a Black Subject (4 Black subjects Involved in Force / 10 Total subjects Involved in Force).
- The Risk Ratio (RR) for White subjects is 0.75 (60% AR for Use of Force / 80% AR for Arrests). This means that White subjects are 25% less likely to be involved in a use of force incident than we would expect based upon their proportion of arrests. The Risk Ratio (RR) for Black subjects is 2.00 (40% AR for Use of Force / 20% AR for Arrests). This means that Black subjects are twice as likely to be involved in a use of force incident than we would expect based upon their proportion of arrests.

- The Odds Ratio (OR) for Black subjects is 2.67 (2.00 RR for Black subjects / 0.75 RR for White subjects). This means that Black subjects who are arrested are 2.67 times more likely to be involved in a use of force incident than White subjects are.

Correlation vs Causation

In the example above, there is a negative correlation between White subjects and the likelihood of force being used after an arrest is made (i.e. White subjects are less likely to be involved in a use of force incident after being arrested). There is a positive correlation between Black subjects and the likelihood of force being used after an arrest is made (i.e. Black subjects are more likely to be involved in a use of force incident after being arrested). However, these correlations do not prove that race is the cause of the increased or decreased likelihood of force being used. There is no causal direction implied (correlation does not imply causation): a positive OR does not establish that B causes A, or that A causes B. While causation and correlation can exist at the same time, correlation does not imply causation. Causation explicitly applies to cases where action A causes outcome B. On the other hand, correlation is simply a relationship. Action A relates to Action B—but one event does not necessarily cause the other event to happen.

Correlation is a statistical measure that describes the size and direction of a relationship between two or more variables. A correlation between variables, however, does not automatically mean that the change in one variable is the cause of the change in the values of the other variable. Causation indicates that one event is the result of the occurrence of the other event, i.e. there is a causal relationship between the two events. This is also referred to as cause and effect.

Theoretically, the difference between the two types of relationships is easy to identify — an action or occurrence can cause another (e.g. smoking causes an increase in the risk of developing lung cancer), or it can correlate with another (e.g. smoking is correlated with alcoholism, but it does not cause alcoholism). In practice, however, it remains difficult to clearly establish cause and effect, compared with establishing correlation.

If there is a correlation, then this may guide further research into investigating whether one action causes the other. By understanding correlation and causality, it allows for policies and programs that aim to bring about a desired outcome to be better targeted.

Correlation and causation are often confused because the human mind likes to find patterns even when they do not exist. We often fabricate these patterns when two variables appear to be so strongly associated that one is dependent on the other. That would imply a cause-and-effect relationship where the dependent event is the result of an independent event.

Correlation tests for a relationship between two variables. However, seeing two variables moving together does not necessarily mean we know whether one variable causes the other to occur. Therefore, we commonly say, "correlation does not imply causation."

A strong correlation might indicate causality, but there could easily be other explanations:

- It may be the result of random chance, where the variables appear to be related, but there is no true underlying relationship.
- There may be a third, lurking variable that that makes the relationship appear stronger (or weaker) than it is.

Correlations between variables show us that there is a pattern in the data: that the variables we have tend to move together. However, correlations alone do not show us whether the data are moving together because one variable causes the other.

It is possible to find a statistically significant and reliable correlation for two variables that are not causally linked at all. Often, this is because both variables are associated with a different causal variable, which tends to co-occur with the data that we are measuring. Only with well-designed empirical research we can establish causation.

Determining causality is never perfect in the real world. However, there are a variety of experimental, statistical and research design techniques for finding evidence toward causal relationships: e.g., randomization, controlled experiments, and predictive models with multiple variables. Beyond the intrinsic limitations of correlation tests, it is important to understand that

evidence for causation typically comes not from individual statistical tests but from careful experimental design.

Understanding causation is a difficult problem. In the real world, it is never the case that we have access to all the data we might need to map every possible relationship between variables. But there are some key strategies to help us isolate and explore the mechanisms between different variables. For example, in a controlled experiment we can try to carefully match two groups, and randomly apply a treatment or intervention to only one of the groups.

However, we cannot implement these kinds of controlled experiments in a public safety environment. We cannot establish the necessary control groups by denying policing services to certain neighborhoods or refusing to make arrests for certain types of crimes or failing to make traffic stops when violations occur.

How is correlation measured?

For two variables, a statistical correlation is measured using a Correlation Coefficient, represented by the symbol (r), which is a single number that describes the degree of relationship between two variables. The coefficient's numerical value ranges from +1.0 to –1.0, which provides an indication of the strength and direction of the relationship.

If the correlation coefficient has a negative value (below 0) it indicates a negative relationship between the variables. This means that the variables move in opposite directions (i.e. when one increases the other decreases, or when one decreases the other increases).

If the correlation coefficient has a positive value (above 0) it indicates a positive relationship between the variables meaning that both variables move in tandem, i.e. as one variable decreases the other also decreases, or when one variable increases the other also increases.

Where the correlation coefficient is zero this indicates there is no relationship between the variables (one variable can remain constant while the other increases or decreases).

How can causation be established?

Causality is the area of statistics that is commonly misunderstood and misused by people in the mistaken belief that because the data shows a correlation that there is necessarily an underlying causal relationship.

The use of a controlled study is the most effective way of establishing causality between variables. In a controlled study, the sample or population is split in two, with both groups being comparable in every way. The two groups then receive different treatments, and the outcomes of each group are assessed.

For example, in medical research, one group may receive a placebo while the other group is given a new type of medication. If the two groups have noticeably different outcomes, the different experiences may have caused the different outcomes.

There are limits to the use of controlled studies and it would be difficult and potentially dangerous to conduct a controlled experiment of law enforcement activities in a public safety environment. However, we can conduct longitudinal studies over time and measure the potential impacts of changes to police policies, training, and practices on demographic disparities.

Observational studies can also be used to investigate correlation and causation for the population of interest. These studies can look at the groups' behaviors and outcomes and observe any changes over time. The objective of these studies is to provide statistical information to add to the other sources of information that would be required for the process of establishing whether causality exists between two variables.

Additional insights into the data may also be obtained through discussions with stakeholders in the community that may have specific knowledge of the facts and circumstances that may be causing the observed disparities in policing statistics.

Tests of Statistical Significance

This report is designed to be used by the Duluth Police Department to help guide the development of policies, procedures, and training and to help inform discussions with the community about the demographics and disparities in policing activities.

Both the DPD and the community want to understand if the observed racial disparities are due to police bias or racial profiling. Unfortunately, this type of quantitative research is unable to answer these causal questions. The presence of racial disparities does not mean that officers are biased. Similarly, the absence of any observed disparities does not mean that officers do not engage in racial profiling. However, sometimes researchers will claim that statistically significant racial disparities in policing statistics "prove" that racial profiling and race-based policing is occurring.[100] Conversely, if an observed racial disparity is not statistically significant that may mislead the reader into believing that officers do not engage in biased policing.

Here is an example from the City of Seattle that illustrates this point:

> In 2000 the Seattle City Council passed a resolution[101] condemning racial profiling and racial pretext stops and establishing a Citizen Task Force to work with the Seattle Police Department to study the issue and bring back recommendations for reform including data collection and analysis. The civilian members of the Task Force were appointed and confirmed by the City Council. The Council appointed a diverse group to the Task Force including representatives from various advocacy groups such as the ACLU and the Urban League. However, there were no Asian representatives on the Task Force.
>
> In Seattle, like most other cities across the country, Asian subjects are underrepresented in policing statistics and concerns about biased policing had not been raised by the Asian community in Seattle before. The underrepresentation of Asian subjects in policing data

[100] "ADDRESSING THE REAL PROBLEM OF RACIAL PROFILING IN SEATTLE, MINNESOTA," Journal of Race, Gender, and Equity, Volume 2, March 2008.
[101] Resolution 30223, Seattle City Council, November 9, 2000.

was statistically significant at the 95% confidence level and the assumption was made that officers were not biased against Asian subjects.

Several months after the Task Force began to meet an incident occurred in the International District where Seattle officers detained a group of Asian-American students for jaywalking. The students claimed that they had been racially profiled.[102] A complaint was filed against the officer involved. One of the allegations was sustained and the officer was reprimanded.[103]

After the incident occurred there was a demand to add Asian representatives to the 14-member task force and the City Council quickly appointed three new Asian members.

Since tests of statistical significance can be misleading in a racial disparity study, this report minimizes the use of this technique.

[102] "Police stop of Asian Americans is called case of race profiling," The Seattle Post Intelligencer, July 13, 2001.
[103] "Officer in jaywalking incident gets reprimand," The Seattle Post Intelligencer, January 18, 2002.

APPENDIX B - Traditional Racial Disparity Analysis

What is Race and Ethnicity? What Are We Trying to Measure?

Before we can discuss racial disparities in policing, we need to define some basic terms and identify the overall goals and objectives of this type of research.

> Race and ethnicity are two concepts related to human ancestry. Race is defined as "a category of humankind that shares certain distinctive physical traits." The term ethnicities is more broadly defined as "large groups of people classed according to common racial, national, tribal, religious, linguistic, or cultural origin or background."
>
> "Race" is usually associated with biology and linked with physical characteristics such as skin color or hair texture. "Ethnicity" is linked with cultural expression and identification. However, both are social constructs used to categorize and characterize seemingly distinct populations. [104]

When the issue of racial bias in policing is studied, the issue is whether an officer's perception of a person's race inappropriately influences how an officer exercises his/her law enforcement authority. Officers may legitimately consider a person's race in some circumstances such as when the officers have received a physical description of a crime suspect that may include age, race, sex, height, weight, clothing, etc.

When a racial disparity analysis is conducted, the goal is to determine whether an officer's conscious or unconscious bias or prejudice influenced their behavior, decision making, or the law enforcement actions they took. Similarly, factors other than officer behavior should also be

[104] "Race and ethnicity: How are they different?" National Geographic

examined such as department policies, training and deployment strategies that may have disparate impacts on certain racial groups.

For this type of analysis, it is not necessary to know how the suspect would identify his or her race/ethnicity. Instead, it is the victim's, witnesses' and officers' perception of the suspect's race that is the critical variable. For example, if an officer were engaged in racial profiling and stopped a driver simply because he thought the driver was Black, it would not matter if the driver considered himself to be mixed race and identified as White.

A typical disparity analysis will examine two quantitative variables and their relationship with one another. The presence of racial disparities in quantitative data does not prove that police officers are biased or that they are engaging in racial profiling. Similarly, the lack of racial disparities in policing activities does **not** mean that officers are consistently behaving in a fair and equitable manner and does **not** mean that officers are free of bias and are not engaged in racial profiling.

The traditional racial disparity methodology begins with the premise that the demographics of policing activities (stops, arrests, uses of force, etc.) should match the demographics of the underlying population (i.e. if 10% of a city's population is Asian then you would expect 10% of traffic stops to involve Asian drivers, 10% of arrests to involve Asian suspects, and so on). When racial disparities are observed they are typically presented as the likelihood of an event happening. For example, if 10% of the population was Asian but 20% of traffic stops involved Asian drivers then we would say that Asian subjects are twice as likely to be stopped by the police as we would expect based on their population. Sometimes these statistics are presented as the odds of one racial group being stopped compared to White subjects (i.e. Black drivers are three times more likely than White drivers to be stopped by the police). Virtually every study that has been conducted using this methodology has found some level of disparity between White subjects and other racial groups. Black, Hispanic, and Native American racial groups typically have more frequent and more serious contacts with the police than White subjects, while Asian subjects have fewer and less serious interactions with police than White subjects.

Cities with small minority populations tend to have the greatest racial disparities in policing because the disparity calculations use the population as the denominator for the equation. For

example, if 10% of the population was Asian and they made up 20% of drivers who were stopped by police the risk ratio would be 2 (twice as likely to be stopped as we would expect based on their population). By contrast if only 1% of the population was Asian and 5% of stops were Asian then the risk ratio would be five and you would say that Asian drivers are five times more likely to be stopped by police than we would expect. When the racial group that you are trying to assess makes up more than a majority of the population, it is impossible to have a risk ratio greater than 2. For example, 83% of residents of Detroit are Black and even if 100% of traffic stops made by Detroit Police were Black drivers you would only have a risk ratio of 1.2 (100% stops/83% population). Cities like Baltimore[105] and New Orleans[106] that have been placed under federal consent decrees for having a pattern or practice of unconstitutional policing practices, would never have Black racial disparities above 2 because their populations are over 60% Black. In New Orleans Black people comprise 61% of the population and 68% of stop and frisks by New Orleans Police officers.[107] Black people are only 11% more likely to be stopped and frisked than we would expect based on their proportion of the population. White subjects in New Orleans make up 30% of the population and 25% of the stops, so they are 17% less likely to be stopped than we would expect. The odds of a Black person being stopped by New Orleans Police are only 13% higher than a White person being stopped and yet the Department of Justice still found a pattern or practice of biased policing by the New Orleans Police Department.

The Seattle Police Department is also under a federal consent decree for having a pattern or practice of unnecessary or excessive force. During their investigation, the Department of Justice found "troubling practices that could have a disproportionate impact on minority communities."[108] Seattle has a small Black population (7%), and two-thirds of the population is White. In 2018, six years after the Consent Decree began, 30% of stops and detentions made by

[105] City of Baltimore Consent Decree
[106] New Orleans Police Department Consent Decree
[107] City of New Orleans Open Data – Stop and Search (Field Interviews)
[108] "Investigation of the Seattle Police Department," United States Department of Justice, Civil Rights Division, December 16, 2011.

Seattle Police officers were Black and 51% were White.[109] This means that the odds of a Black person being stopped in Seattle are more than five times greater for a Black person than a White person. Several reforms implemented under the Consent Decree were specifically designed to reduce racial bias by officers.[110] However, as the data clearly shows, these reforms did not have any impact on racial disparities in police stops and detentions. If we were to use racial disparities in stops as a primary indicator of racial bias by police officers, then we would have to conclude that Seattle Police officers are five times more biased than New Orleans police officers. It is doubtful that the Seattle Monitor or the federal judge overseeing the Consent Decree would agree with that conclusion since that same year they found the Seattle Police Department to be in "full and effective compliance" with the consent decree.[111] This example illustrates how the traditional racial disparity analysis is influenced by the population size of the racial group is being measured. The smaller the population, the greater the disparity is likely to be.

[109] "Stops and Detentions Annual Report 2018," Seattle Police Department.
[110] United States of America v. City of Seattle – Settlement Agreement, United States District Court, Western District of Minnesota, July 27, 2012.
[111] "Judge Finds SPD in "Full and Effective Compliance" With Consent Decree," The Stranger, January 10, 2018.

The Problem with Population

There are many problems with using a city's population as the benchmark for a racial disparity analysis of policing activities. For population to be a valid benchmark, all the following assumptions must be true:

- Each demographic group must commit the same types of offense at the same rates. Each group must have an equal chance of encountering police officers and have the same risk of being stopped, arrested, etc.
- Each demographic group must have the same driving habits and they must violate traffic laws at the same rates.
- Police patrols must be dispersed uniformly across the jurisdiction and they all must perform the same policing functions (i.e. no specialized units or emphasis patrols).
- The police must only stop individuals who are residents of their city so that they will be part of the underlying census population. Police must not make any stops outside of the city limits since non-residents would not be representative of the city's population.
- An officer's perception of a person's race must always match the person's self-reported race in the census data. If there are discrepancies between perception and reality, then population cannot be used as a benchmark. Also, the census data for Duluth has nearly 7.4% of the population identifying as "two or more races.[112]" Since officers do not have this option available, these individuals will be placed in a single race category elevating the numbers above the census population.

[112] Duluth City, Minnesota, Quick Facts, United States Census Bureau.

If all these assumptions hold true, then any observed racial disparities in policing activities would be an indication of officer bias, discrimination and/or selective enforcement. However, since none of these assumptions are true, population is a poor benchmark to use for measuring disparities in policing. Here are a few reasons why a Population Based Calculation (PBC) for a racial disparity analysis does not work:

1) **Not all residents of a city are at equal risk of being stopped by the police**

   Based on data from reported crimes, offending behavior can vary significantly by age, race, and sex in both the frequency and the severity of unlawful conduct. There are many factors that may influence criminal behavior and these factors are not distributed evenly throughout the community:

   a. Poverty
   b. Unemployment
   c. Substance Abuse & Addiction
   d. Mental Health Issues
   e. Access to Health Care
   f. Availability of Weapons
   g. Quality of Housing & Homelessness
   h. Family Stability

2) **Everyone does not drive the same type of car or drive in the same way.**

   Driving behavior can vary significantly by age, race, and sex. Some people cannot afford to own a car, some can only afford old cars with many problems and others can lease a new car every year. Some drivers may be unable to pay their tickets, car insurance or vehicle license leading to a suspended license. Some people may commute to work while others walk or take public transportation. Some people may just be bad drivers while others may have a professional driver's license.

3) **Police officers do not randomly patrol the city**.

A department will deploy its officers based primarily on calls for service. Areas that are densely populated and have more commercial activity tend to have more calls for service and so more officers will be deployed there. Sparsely populated residential neighborhoods normally have fewer calls and so there will be fewer officers assigned to patrol them. If there are more officers in an area, there will be a greater chance that they will observe suspicious activity or criminal acts and so there is a greater chance of an individual being stopped. A police department may also have emphasis patrols where they focus enforcement efforts in a particular area to combat a specific problem such as drunk driving.

4) Officers will stop non-residents inside the city, and they will make stops outside of the city limits.

Not all stops within a city will involve an individual who does not reside in the city. These could be workers, shoppers, tourists or just people passing through. In addition, some stops made by Duluth PD officers will occur outside of the city limits. This may be due to a pursuit of a suspect across the city border, a request for mutual aid from another jurisdiction, participation in regional task forces or serving an arrest warrant. Since a significant percentage of all police stops involve non-residents, it is not possible to compare the demographics of policing activities with the demographics of the underlying population.

5) Officers are required to guess a person's race.

A person's date of birth and sex are recorded on all state issued identification, but a person's race does not appear in these documents. Whenever an officer makes an arrest or issues a citation, they must record the person's age, race, and sex along with other identifying information such as height, weight, hair color, eye color, home address, etc. Officers are normally discouraged or prohibited by policy from asking questions about a person's race**.**

Some police departments have developed special data collection forms to measure racial bias. These forms will normally ask for the officer's perception of the suspect's race. The

theory is that when measuring racial bias, it is the officer's perception of race that matters regardless of what the person's race is. There are several problems with this approach:

- An officer guessing someone's race is like asking them to guess the person's age. It is not always obvious from outward appearances what racial or ethnic group an individual belongs to. We are not aware of any studies that have been done to determine how often an officer's perception of a person's race matches the person's actual race.

- Officers receive no training in how to identify a person's race. As a result, four officers may arrest a Subject and each officer records the Subject's race differently.

- There is no way to verify whether an officer is recording his actual perception of a person's race or whether the officer is instead recording a race that may look more favorable in the analysis. Any racial disparity analysis must assume that officers will always record their honest perception of a person's race and that officers will have no uncertainty about what the person's race is. Officers know that these racial tracking systems are used to evaluate racial bias and that if they record a disproportionate amount of a minority racial group, they could be flagged as a biased officer. Since there is no way to verify whether the officer recorded his perceptions accurately and there is always going to be some level of uncertainty, there is an incentive to record a race that would be favorable to the officer's statistics. This incentive would be even greater if the officer were consciously engaged in racial profiling or biased policing. As a result, these disparity calculations can never be used to identify potentially biased officers. Even if officers are doing their best to record their actual perceptions of a person's race, we have no way to know how many times that perception will match the person's self-reported race to the census bureau. If the officer were a poor race guesser and his policing activity was compared to the population, the disparities would be large despite the fact the officer was not engaged in biased policing.

- Another problem with recording an officer's perception of race is that we do not know how the officer forms his opinion about the race of the individual. Did the officer

choose the Subject's race based on skin color, hair style, accent, clothing, or other factors? Was it a combination of factors? Did a witness or victim tell the officer the Subject's race? If racial disparities are used to measure officer bias, these are all important questions that must be answered.

6) **Data sets used for a PBC disparity analysis have different racial and ethnic categories and some databases have missing or unknown values.**

The data sets collected by law enforcement agencies are not entirely consistent with the data provided by the census bureau. Internal agency data collection systems can also produce incompatible data for a comparative analysis.

a. **Racial Categories**

The Census Bureau collects information for five main racial groups (White, Black, Asian, Native American and Pacific Islander). The Census allows individuals to identify with two or more races and this mixed-race group comprises 4.2% of the Duluth population. Many internal police databases also include the five main racial groups but there is normally no option for mixed race individuals. To make a meaningful comparison between police data and census data, mixed race individuals from the census must be distributed among the five racial groups. Since officers may be more likely to perceive a mixed-race person as a person of color rather than a White person, it may be necessary to distribute mixed race individuals from the census into their non-White categories. This will have the effect of increasing the non-White population and decreasing racial disparities for those groups.

b. **Unknown Race or Missing Data**

The Census data does include people with an unknown race. However, because law enforcement data is based upon the officer's perception of a person's race and the officer is required to enter that information into the data collection system, there are sometimes cases where the officer could not identify the race, or they failed to enter the data.

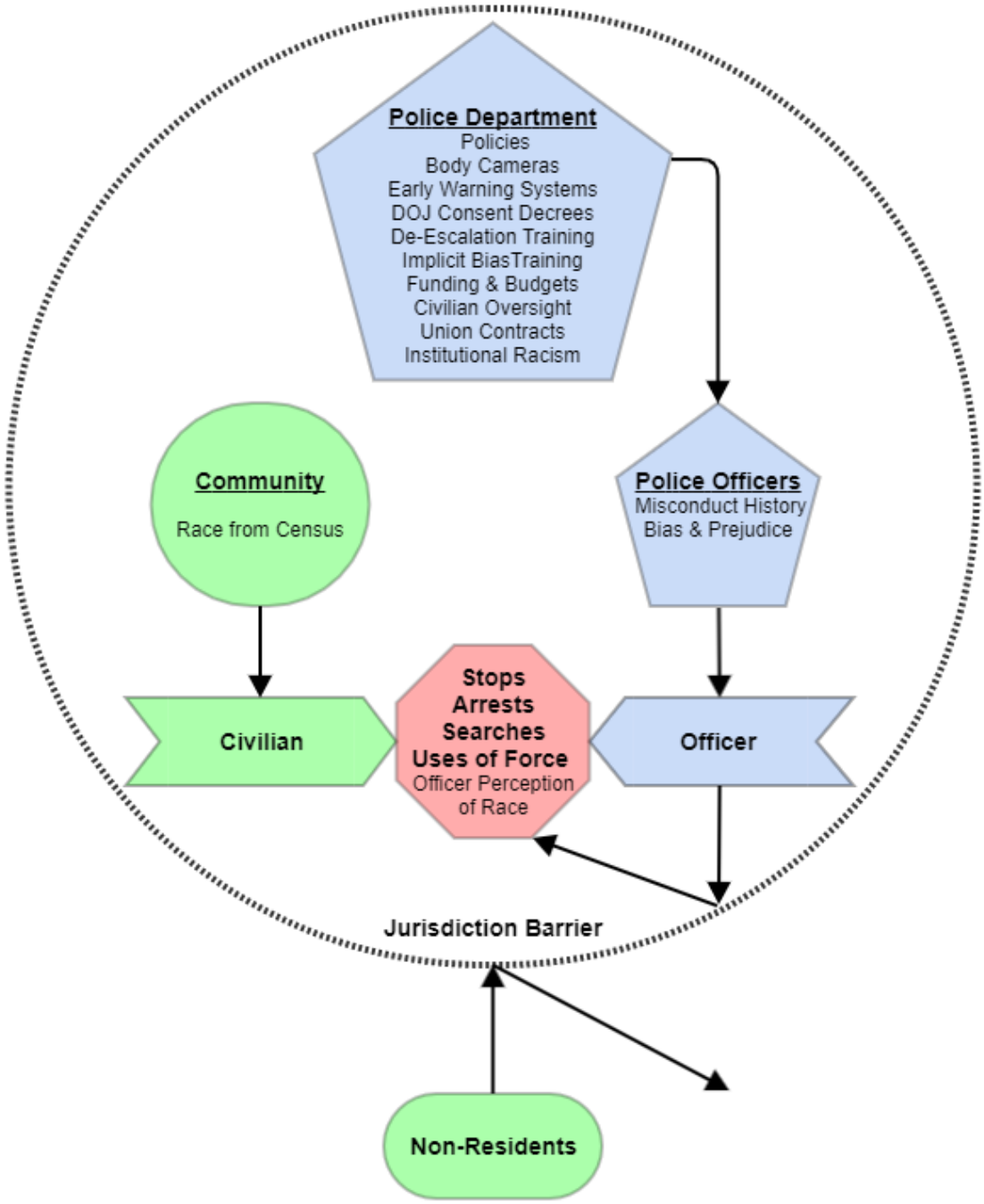
c. **Sometimes ethnicity is included as a racial category and sometimes it is tracked separately from race.**

The US Census tracks ethnicity separately from race. An individual can be recorded as any race with or without a Hispanic designation. By contrast most law enforcement agencies include Hispanic ethnicity as a separate racial category. This forces officers to choose between race and ethnicity. It is unclear whether officers are prioritizing race over ethnicity or vice versa. This can cause problems when trying to compare the law enforcement data with census data.

Traditional Racial Disparity Analysis Model

The traditional racial disparity analysis methodology that uses population-based calculations (PBC) is overly simplistic and makes unrealistic assumptions for the model to work.

Figure 24: Traditional Racial Disparity Analysis Model



The traditional racial disparity analysis model relies on the following assumptions:

1) A person's race is the only demographic variable that matters. Usually, no examination is made of other demographic traits such as age or sex.

2) Offending behavior within the community is homogeneous. All racial groups are equally likely to commit offenses and all types of offenses are committed at the same rates regardless of race (i.e. if the population were 50% Black and 50% White then 50% of assaults, robberies, burglaries and all other types of crimes and traffic violations would have been committed by Black subjects).

3) Each racial group within the community has an equal risk of being stopped by the police. This would require some type of randomization. Each person in the jurisdiction would randomly be committing crimes at the same rate as everyone else and they are equally likely to encounter a police officer as they are committing the offense.

4) Police officers would be randomly deployed around the city, and they would need to stop anyone they see who is committing a crime or traffic offense.

5) Since the benchmark used in the disparity calculation comes from the census of the jurisdiction's population, it must be assumed that no one residing outside the jurisdiction will be stopped by officers and officers will conduct all their enforcement action within the jurisdiction.

If all the above assumptions are true, then we would expect the racial composition of police stops and arrests to match the racial makeup of the population. If any racial disparities exist it would be because the officers were not behaving in a random, neutral, and unbiased manner. This leads to the conclusion that racial disparities in policing are caused by officer bias, discrimination, and racial profiling.

Since the racial disparities are assumed to be caused by police officers engaged in unwanted behavior, the remedies proposed to reduce the racial disparities are focused on trying to change officer behavior such as:

- Implicit Bias Training
- De-Escalation Training
- Early Warning Systems
- Body Cameras
- Policy Changes
- Civilian Oversight & External Reviews

While many jurisdictions have implemented many of these types of reforms there is little evidence that officer behavior has changed, and the observed racial disparities continue to exist. This is true even with departments that have undergone intensive reforms under federal consent decrees with independent monitors.[113] If an overrepresentation of a racial group in policing statistics infers officer bias, then we must assume that officers give preferential treatment to racial groups that are underrepresented in policing data. Usually these are White subjects, Asian subjects, and Pacific Islanders.

[113] "Report: Seattle police use low levels of force, but racial disparity remains," The Seattle Times, February 6, 2019.

Using this traditional disparity analysis model on data from the Duluth Police Department will generate large racial disparities between the City population and police stops, arrests, searches and uses of force.

Table 39: Demographic Distribution of the Population of the City of Duluth and Data from the Duluth Police Department

Data Source		Census	CFS	CAD	UOF
Total Records		85,618	24,564	23,660	281
		Population	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	38.0%	32.6%	18.5%
	Male	48.7%	62.0%	67.4%	81.5%
Race	White	94.1%	60.5%	67.5%	50.9%
	Black	2.4%	21.1%	16.5%	27.4%
	Nat Amer	1.9%	17.8%	15.3%	21.7%
	Asian	1.7%	0.5%	0.7%	0.0%
Age	0-17	17.2%	8.3%	7.6%	9.2%
	18-29	25.8%	36.9%	41.5%	41.0%
	30-39	13.4%	31.0%	25.4%	26.2%
	40-49	10.8%	14.0%	12.7%	16.6%
	50+	32.9%	9.8%	12.8%	7.0%

Table 40: Risk Ratios Based Upon the Traditional Disparity Methodology – Population-Based Benchmarks – Duluth Police Department

Data Source		Census	CAD	CAD	UOF
Total Records		85,618	24,564	23,660	281
Benchmark			Population	Population	Population
		Population	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	0.7	0.6	0.4
	Male	48.7%	1.3	1.4	1.7
Race	White	94.1%	0.6	0.7	0.5
	Black	2.4%	8.9	6.9	11.5
	Nat Amer	1.9%	9.5	8.2	11.6
	Asian	1.7%	0.3	0.4	0.0
Age	0-17	17.2%	0.5	0.4	0.5
	18-29	25.8%	1.4	1.6	1.6
	30-39	13.4%	2.3	1.9	2.0
	40-49	10.8%	1.3	1.2	1.5
	50+	32.9%	0.3	0.4	0.2

Using a traditional racial disparity analysis, significant racial disparities are observed for Black and Native American subjects for both arrests and uses of force. Based on the population, Black and Native American subjects are ten times more likely than White subjects to be arrested by Duluth PD. Black and Native American arrestees are twenty-three times more likely than White subjects to be involved in a use of force incident. This model leads to consistent overrepresentation in all police actions for Black and Native American subjects and consistent underrepresentation for White and Asian subjects. When this simplistic analysis has been done in other jurisdictions, Black subjects are consistently overrepresented in the results. While we do not agree with this methodology, the results are included in this report to highlight the differences between a traditional disparity analysis and the more comprehensive methodology that we have developed for this study.

Table 41: Demographic Disparity Matrix Based Upon the Traditional Disparity Methodology – Population-Based Benchmarks - Duluth Police Department

Data Source		Census	CFS	CAD	UOF
Total Records		85,618	24,564	23,660	281
Benchmark			Population	Population	Population
		Population	Reported Offenders	Arrests	Uses of Force
Sex	Female	51.3%	-	-	-
	Male	48.7%	+	+	++
Race	White	94.1%	-	-	-
	Black	2.4%	++	++	++
	Nat Amer	1.9%	++	++	++
	Asian	1.7%	-	-	-
Age	0-17	17.2%	-	-	-
	18-29	25.8%	+	++	++
	30-39	13.4%	++	++	++
	40-49	10.8%	+	+	++
	50+	32.9%	-	-	-

Symbol	Disparity	Risk Ratio
++	Positive	> +50%
+	Positive	+25% to +50%
0	None	-25% to +25%
-	Negative	-25% to -100%

When the traditional racial disparity methodology is used to analyze data from the Duluth Police Department, a reader might conclude that Black and Native American subjects suffer some level of discrimination when they are arrested, or when force is used against them. However, based on the underrepresentation for Asian subjects in all types of law enforcement encounters, one

would also have to conclude that Asian subjects receive preferential treatment from DPD officers. If we assume that the disparities are an indication of officer bias, we would also have to conclude that DPD officer are biased against Males and give preferential treatment to Females. Similarly we would also have to conclude that DPD officers give preferential treatment to juveniles and those over 50 since these groups are consistently underrepresented in the law enforcement data compared to their share of the population.

The researcher using population-based benchmarks might conduct multivariate regression tests to determine whether the disparities remain statistically significant when other factors are taken into consideration. They may also break down the data by individual neighborhoods to see if disparities are greater in some parts of the jurisdiction than others. However, no matter how many statistical techniques are used, some level of racial disparity will remain. Although this type of quantitative analysis cannot be used to prove racial bias by individual officers, the researchers may propose interventions that are designed to reduce racial bias and ensure fair and equitable policing. After those reforms are implemented, the researchers will conduct the same analysis with more recent data and will invariably find the same racial disparities that they observed before the reforms were implemented. This will reduce public trust and confidence in the police since none of the reforms will have produced the desired results. This cycle of "Research and Reform" will cost a lot of money, take years to implement and can erode community relations with the police.

Comparing Demographics of Policing Data with Census Data

Census data is often used to examine demographic disparities with policing statistics. There are several challenges that prevent a strictly apples-to-apples comparison. Census data is based on self-reporting of the individual completing the census form. An individual's age and sex are reported to the department of motor vehicles and will appear on the person's driver's license. If an officer has access to a Subject's state ID, then they will be able to record the Subject's self-reported demographic information in their reports and data entry systems. However, an individual's race does not appear on state identification documents. While officers routinely will ask subjects for their name and date of birth for identification purposes, they do not inquire about the person's race. This means that all racial information obtained by law enforcement agencies is based upon the officers' perceptions of a person's race.

When we examine racial disparities between law enforcement data and the census a small difference in the perceived race of subjects can have a substantial impact on the risk ratio.

Perception vs Self Reporting

One argument that is made in favor of reporting the officer's perception of the Subject's race rather than the Subject's self-reported race is that when issues of racial profiling are examined it is most important to know what the officer's perception of the Subject's race is even if that perception is incorrect. If we are going to examine issues of racial bias in policing, it is essential to understand how officers perceive the individuals they interact with. However, the methodology breaks down when we attempt to compare officer perceptions of the race/ethnicity of the subjects they stop with self-reported race/ethnicity of the jurisdiction's population from the US Census. We do not know how often an officer's perception of a Subject's race matches the Subject's self-reported race/ethnicity. Even if officers were 90% accurate in their perceptions of race/ethnicity, this still introduces a large margin of error when policing statistics are compared with the census demographics.

When race data is collected as a suspect description for law enforcement purposes, officers have an incentive to report the Subject's race as accurately as possible in the CAD system. This race

data will be used across the entire criminal justice system and may be used for suspect identification in subsequent incidents.

Do officers have an incentive to report their perceptions of race accurately?

When officers enter a Subject's demographic information (age, race, sex, height, weight, hair color, eye color, etc.) into an incident report or CAD system, there is a strong incentive to enter the data as accurately as possible so that the Subject can be correctly identified in future encounters and matched with prior contacts/arrests. However, when a standalone data system is created specifically designed to monitor and evaluate officer activity, there is less of an imperative to report the information accurately. There may even be an incentive to misreport the data to reduce concerns that may be raised about the officer's activities. We are not suggesting that officers would intentionally misrepresent the data. However, since all the race/ethnicity data that is entered into these systems is based on an officer's perceptions and there is no way to challenge the veracity of those perceptions, officers may have an incentive to err on the side of reporting less controversial statistics. For example, if an officer stops a mixed-race Subject who could be perceived as Hispanic, Black, or Native American, how will the officer decide which race to enter into the database? There is no correct answer and no way to verify whether or not the officer is reporting on his/her best guess, so officers may enter the option that they believe will raise the fewest questions.

Perceptions vs Reality – What is the Best Way to Track Race in Policing?

Since a person's race is not recorded on state identification documents and officers are not required to ask a Subject what his or her race is, we usually must rely on the officer's perception of the race of people they encounter. There is no way to verify whether the officer's perception is accurate or not. No one knows how often an officer's perception will match how the person identified their race to the census bureau. How do officers perceive mixed race individuals or the complex combinations of race and ethnicity? There is no test to determine how skillful officers are at guessing someone's race or how accurate their guesses are. We do not know how many times officers are uncertain about someone's race and simply make a guess when they enter the data. If an officer is uncertain of someone's race, how can the officer be biased against that person? Since it is impossible to gauge the veracity of an officer's perception of a person's race, there is no way to assess whether officers are making up their answers or only entering data that they think may be favorable to them in the analysis. Comparing an officer's perception of a person's race/ethnicity to the person's self-reporting of race/ethnicity to the census bureau is akin to guessing the weight of attendees at a county fair. Officers are only able to base their decisions on characteristics that are readily observable (skin tone, hair color, facial features, accents, etc.). Officers do not have access to the person's genealogy and will know nothing about their background or family history. Similarly, there are no objective standards for reporting a person's race to the census bureau. A dark-skinned person who is mixed race may identify as White even though the officer may perceive them as Black.

There is no definition of different racial groups and no chart that officers can use to help them identify someone's race. Officers are given no guidance and are forced to guess a person's race based upon each officer's unique Subjective criteria. Similarly, the census data does not necessarily reflect what the population may look like from an officer's perspective. Individuals may choose their own race when filling out census forms. There are no objective standards for filling out the census forms and an individual is free to choose whatever race/ethnicity they want.

There are infinite numbers of permutations that could occur between perceived and self-reported race, but here is one example that illustrates how difficult it is to make a meaningful comparison between a person's self-reported race and the officer's perception of that person's race. An individual who has a Black mother, a White father and a Hispanic grandparent may choose to identify themselves in several diverse ways on the Census form:

Reported to Census Bureau	
Race	**Ethnicity**
Black	Hispanic
White	Hispanic
Mixed Race	Hispanic
Black	Non-Hispanic
White	Non-Hispanic
Mixed Race	Non-Hispanic

If an officer stops this person and is required to record her race based solely on the officer's perceptions, the officer will have no knowledge of the person's family history or the person's view of their own race. The officer would be free to enter any racial/ethnic group that they thought was most appropriate:

Officer's Perception of Race/Ethnicity
Black
White
Native American
Hispanic
Asian
Pacific Islander

An officer may make hundreds of stops each year. How often will the officer's perception of a person's race match what that person reported to the census bureau? No one knows the answer to this question, but it is reasonable to assume that there will be a significant margin of error.

Racial Profiling Definitions

The American Civil Liberties Union has defined the term "racial profiling" as follows:[114]

> "Racial Profiling" refers to the discriminatory practice by law enforcement officials of targeting individuals for suspicion of crime based on the individual's race, ethnicity, religion, or national origin. Criminal profiling, generally, as practiced by police, is the reliance on a group of characteristics they believe to be associated with crime. Examples of racial profiling are the use of race to determine which drivers to stop for minor traffic violations (commonly referred to as "driving while black or brown"), or the use of race to determine which pedestrians to search for illegal contraband.
>
> Racial profiling does not refer to the act of a law enforcement agent pursuing a suspect in which the specific description of the suspect includes race or ethnicity in combination with other identifying factors.
>
> Defining racial profiling as relying "solely" on the basis of race, ethnicity, national origin, or religion can be problematic. This definition found in some state racial profiling laws is unacceptable because it fails to include when police act on the basis of race, ethnicity, national origin, or religion in combination with an alleged violation of a law. Under the "solely" definition, an officer who targeted Latino drivers who were speeding would not be racial profiling because the drivers were not stopped "solely" because of their race but also because they were speeding. This would eliminate the vast majority of racial profiling now occurring.
>
> Any definition of racial profiling must include, in addition to racially or ethnically discriminatory acts, discriminatory omissions on the part of law enforcement as well.

[114] "RACIAL PROFILING: DEFINITION," ACLU

The International Association of Chiefs of Police (IACP) model policy for Bias-Free Policing[115] defines "biased policing" as:

> Discrimination in the performance of law enforcement duties or delivery of police services, based on personal prejudices or partiality of agency personnel toward classes of people based on specified characteristics.
>
> For the purposes of this policy, real or perceived personal characteristics, to include but not limited to race, ethnic background, national origin, immigration status, gender, gender identity/expression, sexual orientation, religion, socioeconomic status, age, disability, or political affiliation.
>
> Agencies should be prepared to recognize all forms of bias in the delivery of police services, whether the bias is based on prejudice towards specified characteristics, nepotism and favoritism, or other factors.
>
> "Fair and bias-fee treatment" means: Conduct of agency personnel wherein all people are treated in the same manner under the same or similar circumstances irrespective of specified characteristics.

[115] "Bias-Free Policing," Law Enforcement Policy Center, International Association of Chiefs of Police, January 2020.